Space Shuttle Program Transition & Retirement 101

Managing the last phase of the Program Lifecycle

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SSP Transition Management Office

T&R 101 Syllabus

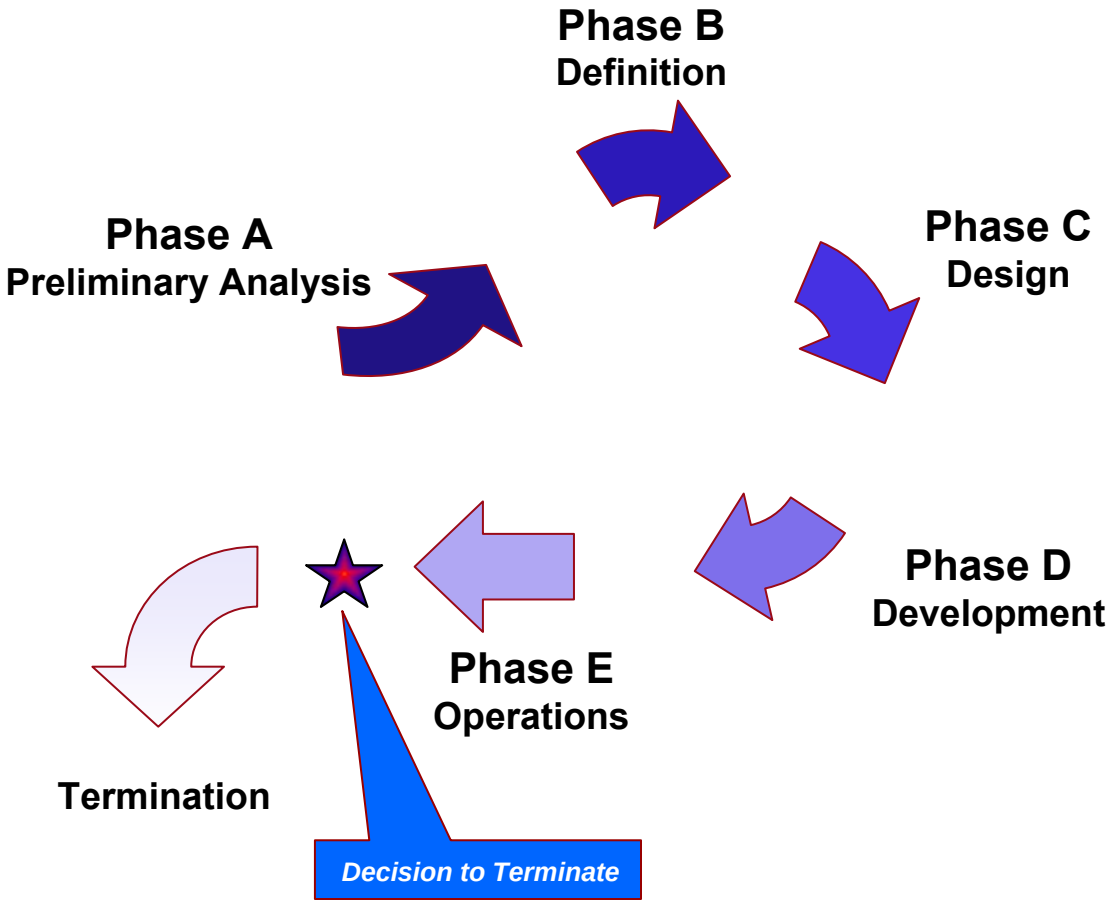
- Overview
- First Steps
- Strategy
- Governance
- Implementation
- Progress
- Summary
- Questions

Vision For Space Exploration

- The Vision* calls for the space program to:
  - Complete the International Space Station by 2010
  - ★ Retire the Space Shuttle by 2010
  - Develop the Orion spacecraft (formerly known as the Crew Exploration Vehicle) by 2008, and conduct its first human spaceflight mission by 2014
  - Develop Shuttle-Derived Launch Vehicles
  - Explore the Moon with robotic spacecraft missions by 2008 and crewed missions by 2020
  - Explore Mars and other destinations with robotic and crewed missions

*** Current Wikipedia description**

Program Life Cycle Phases



Termination = ***T****ransition* of needed capabilities & ***R****etirement* of unneeded capabilities

What is Transition & Retirement?

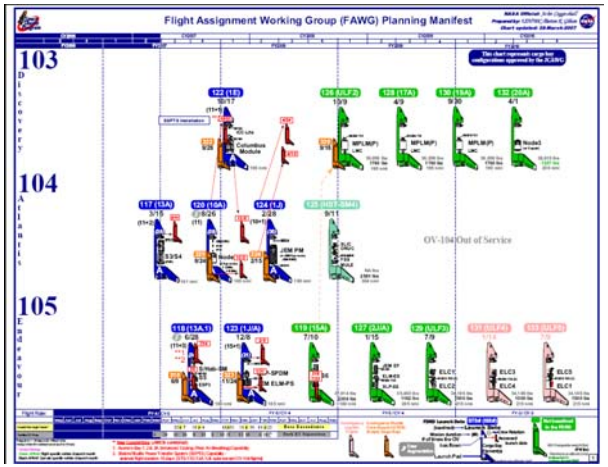
- **"T&R" is the combination of transfer and close-out activities associated with Space Shuttle capabilities.**
- **T&R is:**
  - Big
  - Complex
  - Uncharted
  - Emotional
  - Expensive
- **The goal of T&R is to support NASA strategic goals and achieve SSP retirement within available resources at the best value for the nation.**

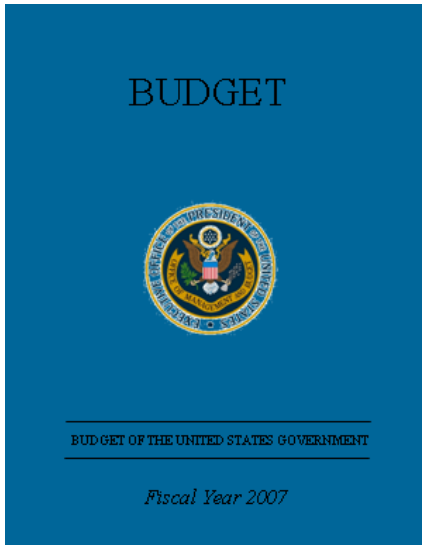
What Drives Transition?

The *Vision for Space Exploration* and retirement in 2010

Safely completing the manifest within available resources

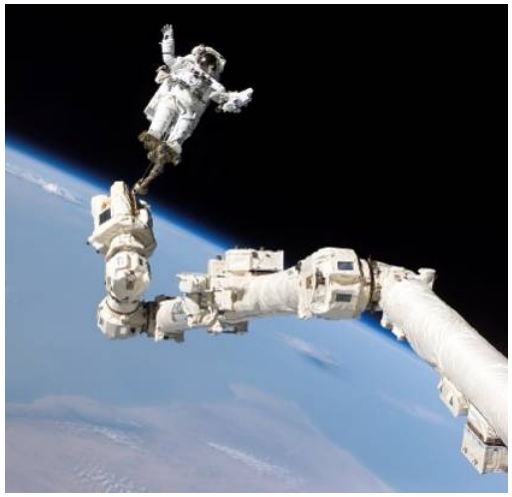
Exploration Systems requirements for Space Shuttle assets and workforce





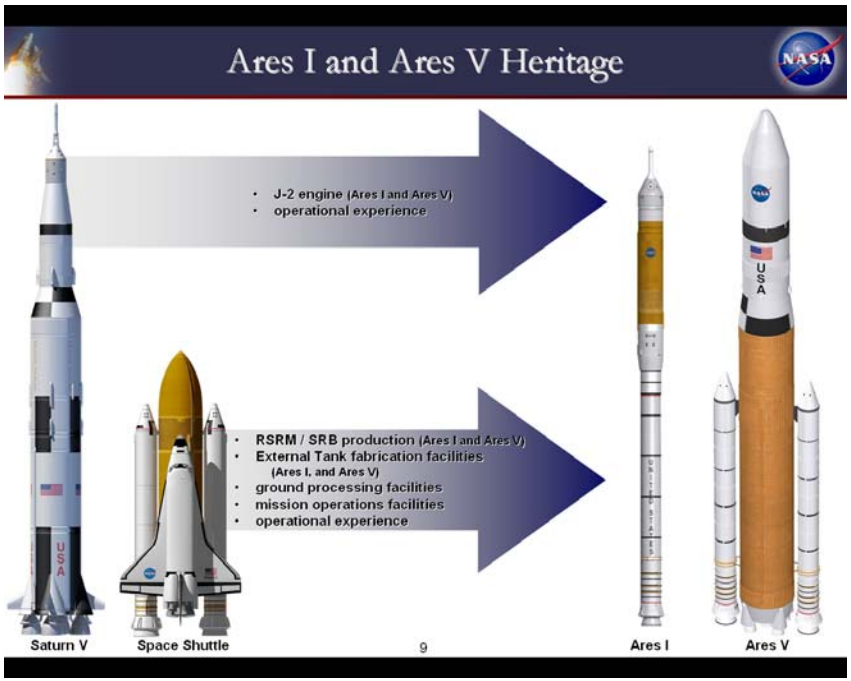
Number 1 Priority – Safe Mission Execution

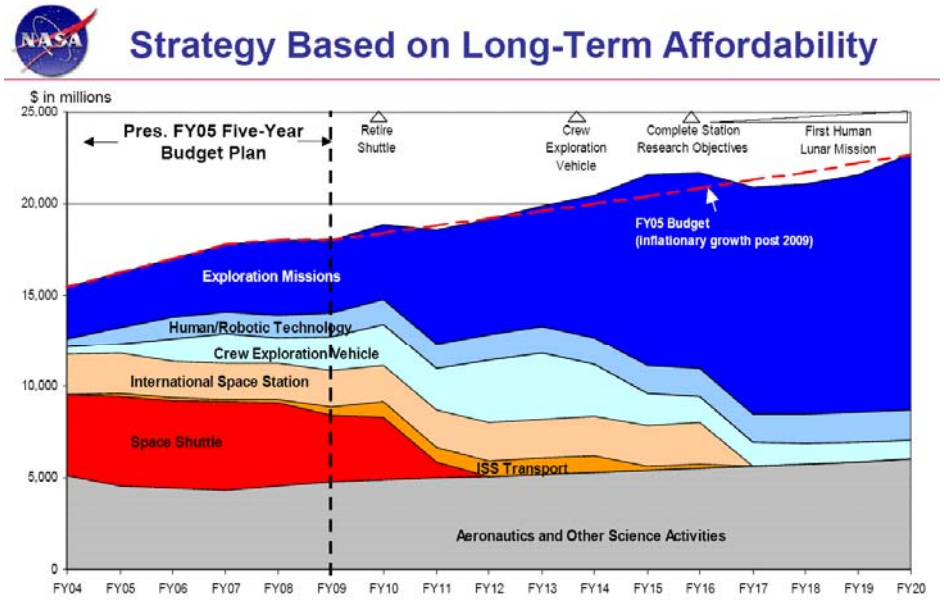
- **The highest program priority is safe and effective mission flyout.**
- **International Space Station will be completed using as few flights as possible.**
- **The current Space Shuttle manifest shows 13 flights to the International Space Station, 1 flight to HST, and two contingency flights between now and 2010.**



Transition & Retirement Overview

- Budget planning assumes efficiencies from *transition* of SSP capabilities to Cx





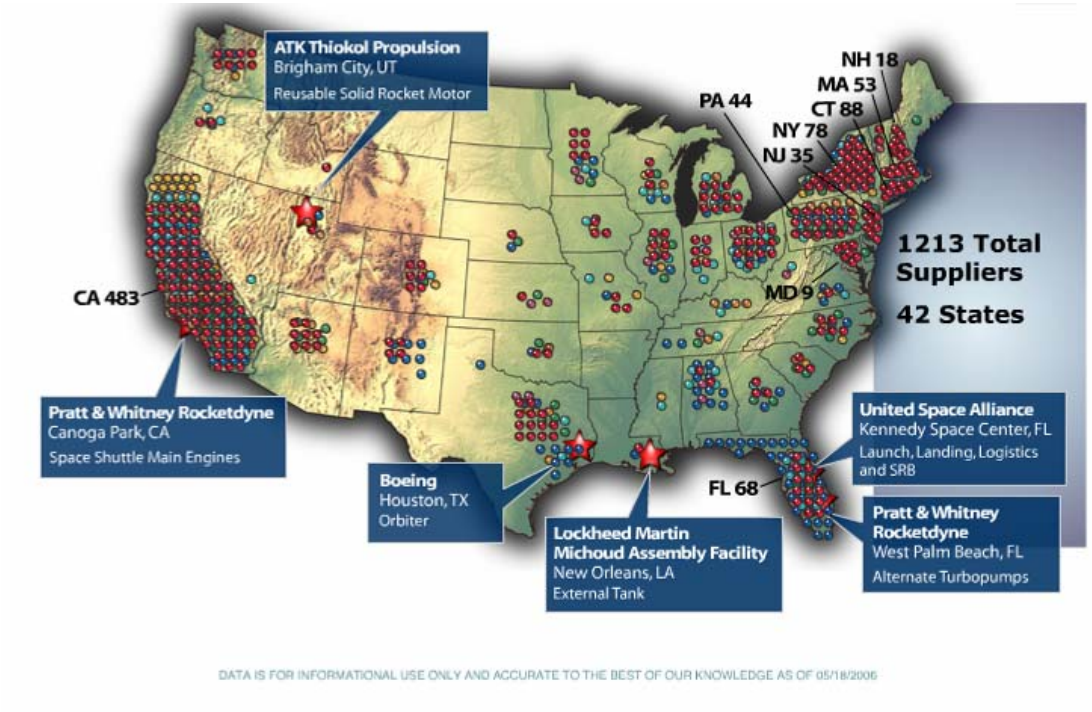
NOTE: Exploration missions – Robotic and eventual human missions to Moon, Mars, and beyond
Human/Robotic Technology – Technologies to enable development of exploration space systems
Crew Exploration Vehicle – Transportation vehicle for human explorers
ISS Transport – US and foreign launch systems to support Space Station needs especially after Shuttle retirement

- Early budget forecasts rely on aggressive *retirement* of SSP capabilities after meeting mission requirements

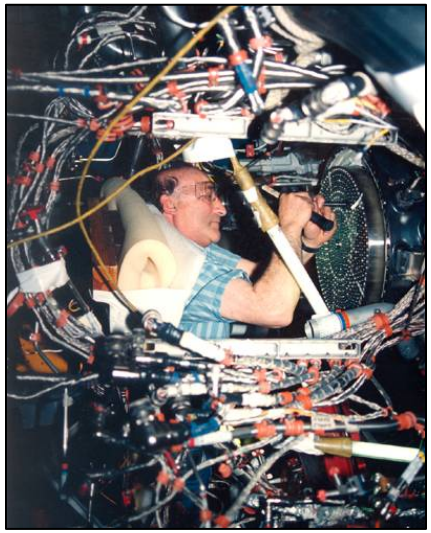
Scope of the Transition Challenge: Shuttle

Shuttle and ISS Flight Safety is #1 Priority

- **Shuttle occupies 640 facilities**
- **Over 1,004,000 property inventory line items**
- **Over 1,765 civil servants and 15,098 prime contracts in fiscal year 2007**
- **Total equipment acquisition value is ~$12 billion**
- **Total facilities replacement value is ~$5.7 billion**



Color Code of Suppliers to Shuttle Prime Contractors:
Yellow - Boeing
Dark Blue - USA
Purple - Lockheed-Martin
Green - Hamilton Sunstrand
Blue - PWR
Orange - ATK
Red - Orbiter Project (JSC)



First Steps

- Following the President's 2004 announcement of the VSE, the SSP quickly mobilized for early retirement and sought out advice.
  - NPR 7120 provides only high-level guidance
  - Benchmarking with the experts provided rich lessons learned. Best-practices research included:
    - USAF Titan Program termination
    - Boeing F-18/AV-8B Production line closure
    - Naval Facilities Engineering Command (NAVFAC)
      - Base Realignment and Closure (BRAC) process
      - Roosevelt Roads NAS Closure
    - Naval Sea Systems Command (NAVSEA)
      - Charleston/Long Beach Navy Shipyard Closures
      - Puget Sound Nuclear Ship Inactivation and Disposal Program
      - Electric Boat Company Downsizing
    - Apollo Program termination lessons
    - NASA/USA Downey Facility Closeout
    - GRC Plumbrook closeout

First Steps

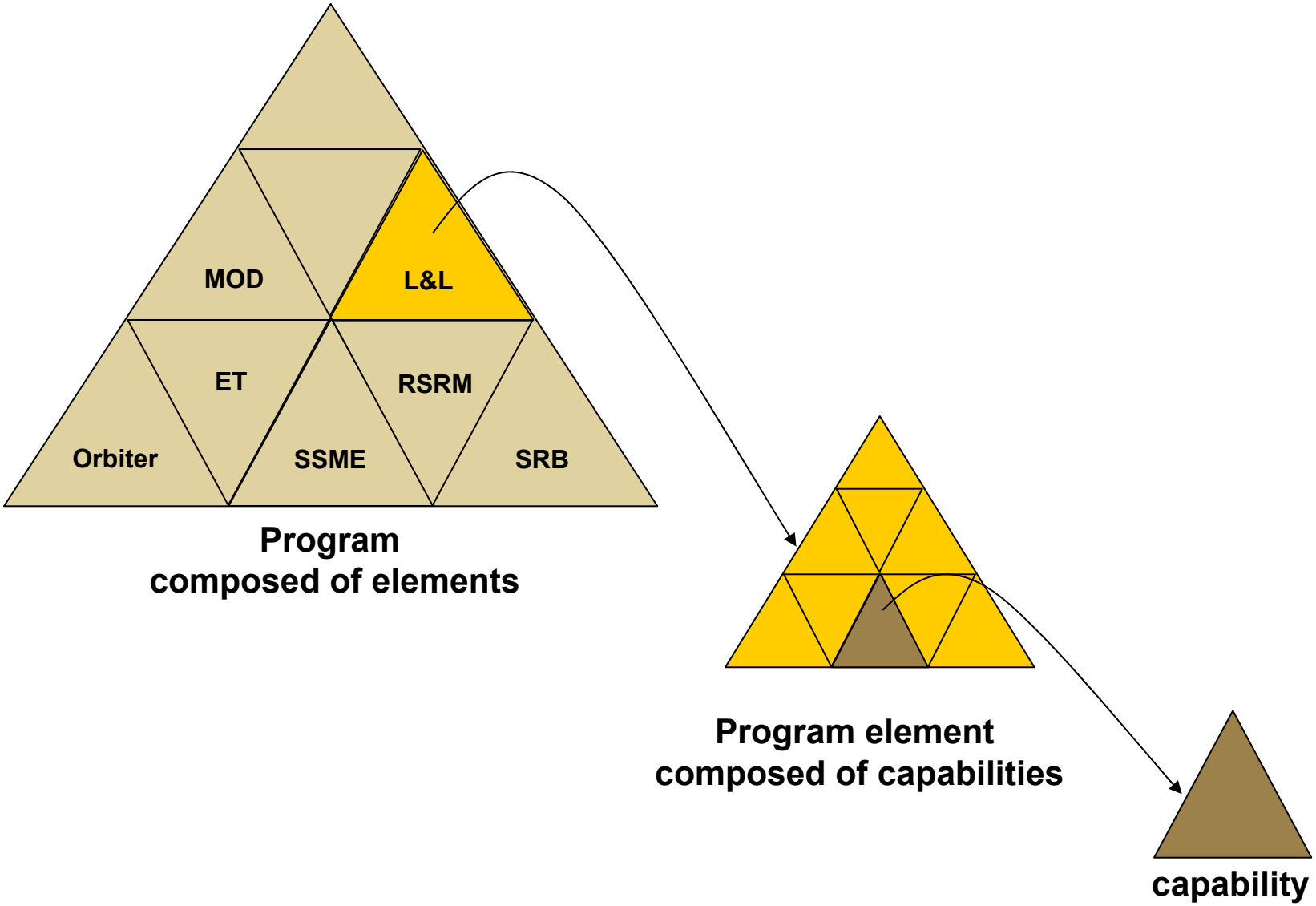
- Benchmarking large-scale program retirements provided initial direction
  - Management Strategy
    - Don’t jeopardize fly-out (Risk Management!!)
    - Start early
    - Communicate with all stakeholders
    - Work well with supporting organizations
  - Organizational Structure
    - Cross-cutting functional areas
    - Governance to facilitate decision-making
  - Cost Drivers
    - Environmental clean-up
    - Property disposal
    - Human capital retention
  - Requirements Development
    - Understand the regulatory environment
    - Perform a Strategic Capabilities Assessment

Strategic Capabilities Assessment (SCA)

- The foundation of T&R planning is a requirements definition
- SSP did an SCA to derive revised program requirements based on the VSE and NASA HQ direction
- The SCA answers:
  - What are our strategic capabilities?
  - What are our capability last need dates?
    - Based on mission success risk assessment
  - What are our capability release dates?
    - Based on estimated time to execute program preparation for handover to institutional disposal processes

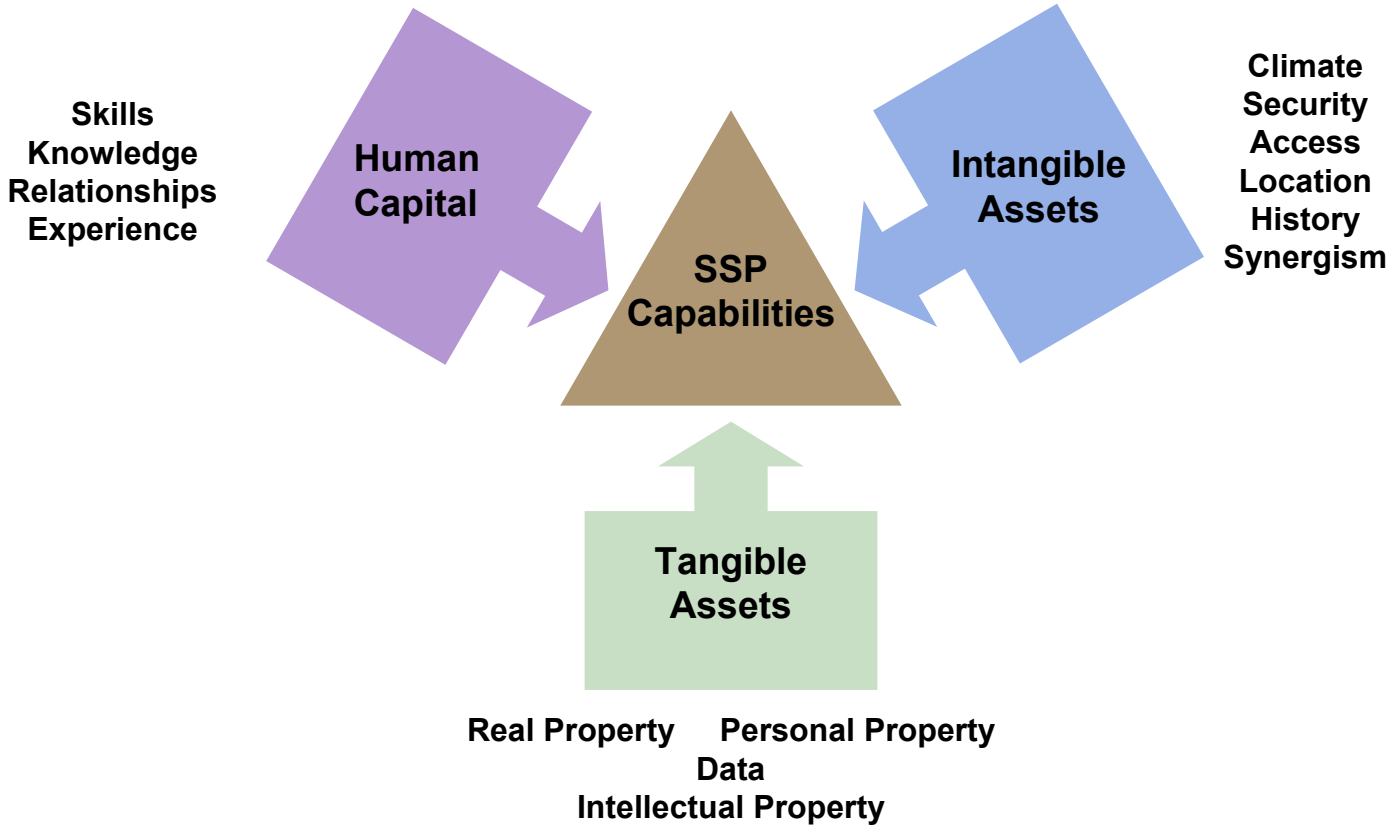
The SCA provides the strategic requirements for Transition & Retirement

Program strategic-level decomposition

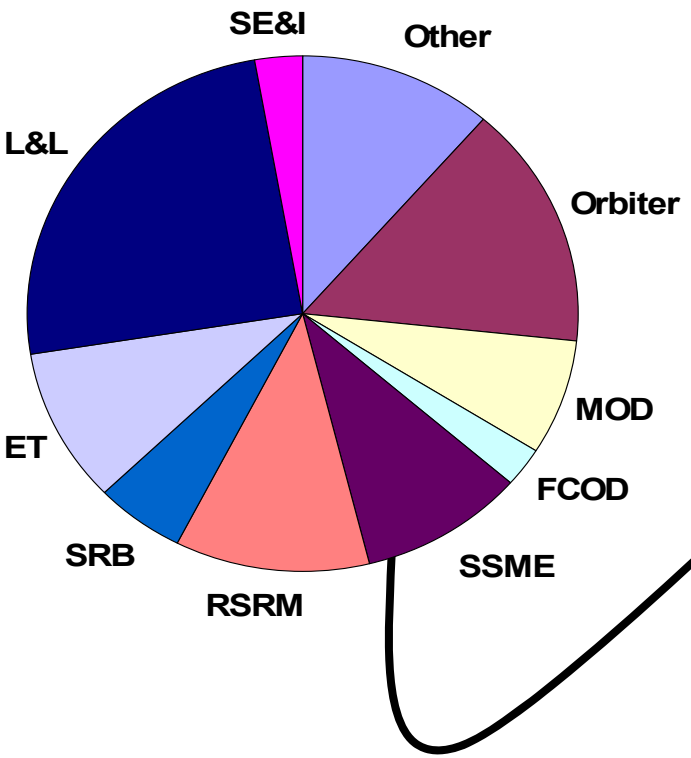


Capability Components

- A capability is the capacity to provide a good or service
- Programs are comprised of a suite of capabilities
  - Each capability can be decomposed into its component parts
  - Each capability must be *dispositioned* during T&R



Strategic-Level Assessment of SSP Capabilities – By Element



SSME SCA

Capability	Last Need Date	Release Date
SSME Capability #1		
▪ ▪ ▪		
SSME Capability #26		
SSME Capability #27		

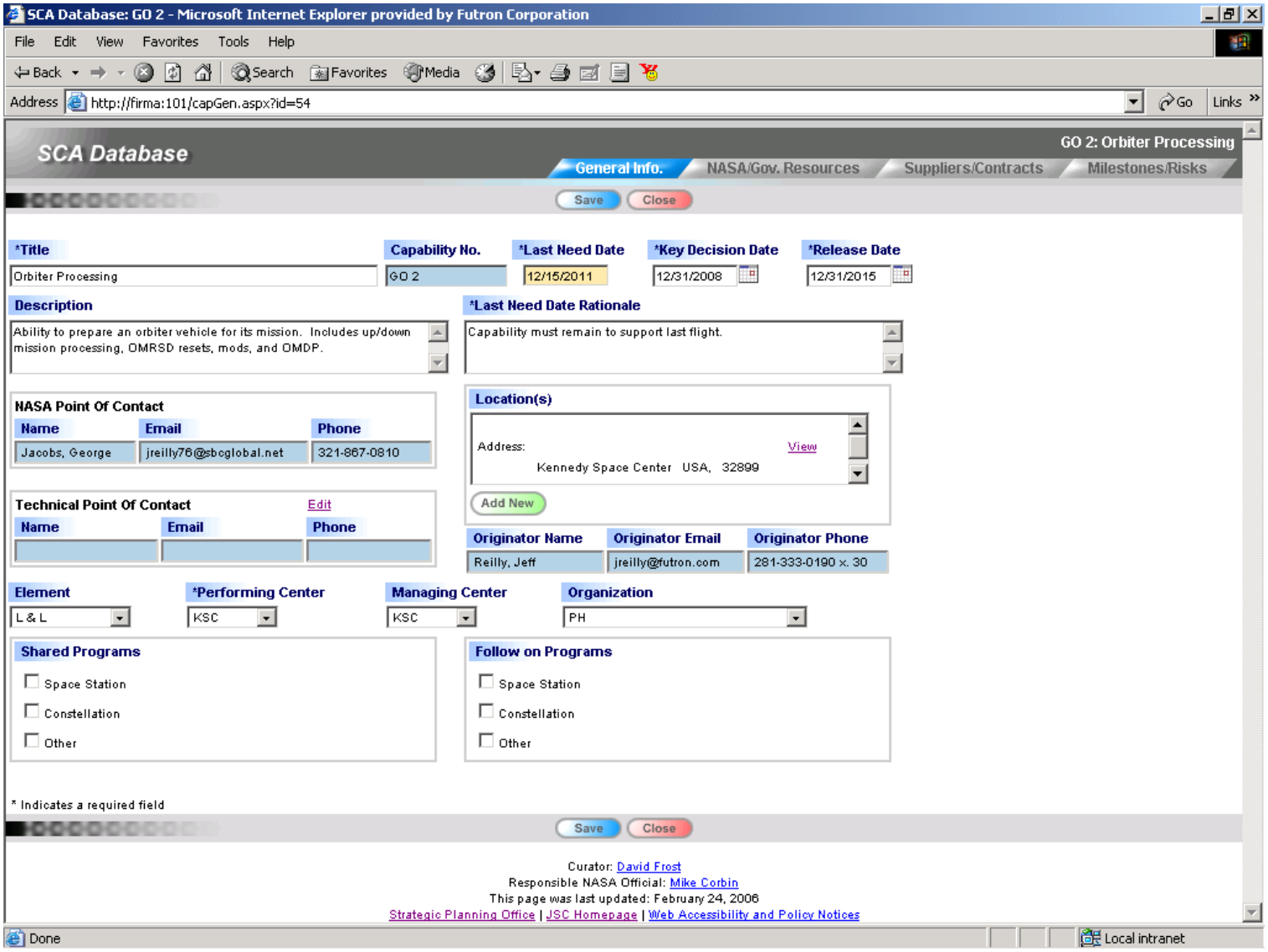
Total = 292 SSP Capabilities

The SCA provides a very high-level breakdown of the Program. It gives us "the shape of the curve."

SCA Record (example)

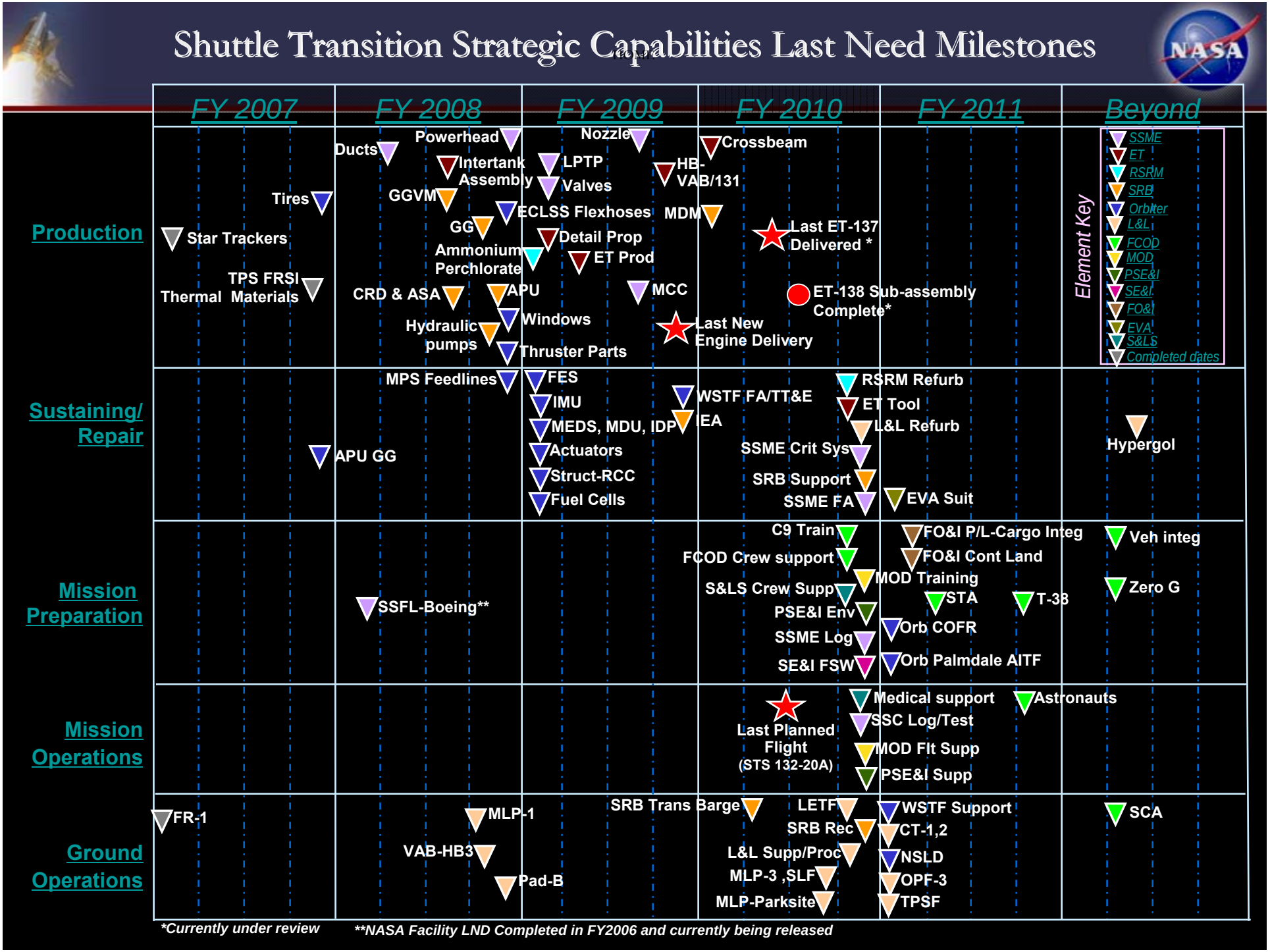
SSP Capability #	SSME-2
Capability Name	Powerhead – Sustaining Operations Critical Process Capability
Capability Description	Ability to recycle/repair a SSME powerhead
Center	MSFC
Org	MP21
SSP Project Element	SSME
Associated WBS #	6.5015
Location name	Los Angeles
Location state	CA
Associated Real Property	tbs
Associated Personal Property	tbs
NASA EP	0
Other govt. EP	0.5
Contractor FTE	15.8
Supplier FTE	2
Associated Suppliers name	Wyman, Gordon, Schaefer, Tech Lefiell, Mfg Hoefner, F&B, Special Metals, Turntech
Associated Suppliers state	MA, IN, CA, AZ, NY, MI
Associated Contracts name	PWR Prime NAS8-01140
Associated Contracts end date	12/31/10
Key Decision Date (KDD) to meet SSP RD	12/30/08
Last Need Date (LND)	09//30/09
LND rationale	No additional procurements necessary to support remaining mission requirements
Release Date (RD)	08/30/10
Capability Shared with other Program(s)?	No
Capability candidate for follow-on program(s)?	Yes
SMRT Doc #	SSMExxx
Resource impact to retain past LND?	Govt – yes Contractor – yes
Risk factors to maintaining capability for NASA	Possible loss of critical suppliers, skills and process

SCA Database (SCADB)



Sample input "screen shot"

Shuttle Transition Strategic Capabilities Last Need Milestones



*Currently under review

**NASA Facility LND Completed in FY2006 and currently being released

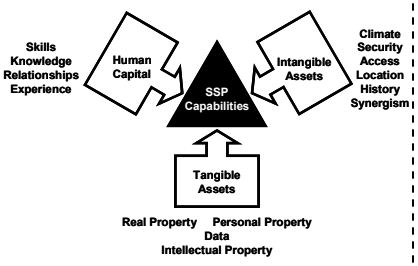
SSP Transition & Retirement Strategy

2004
Vision for Space Exploration

2006

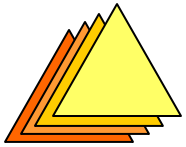
2010+

Define SSP Current Capabilities



Define SSP Requirements to support 2010 flight manifest

Strategic Capabilities Assessment
Last Need Date determination

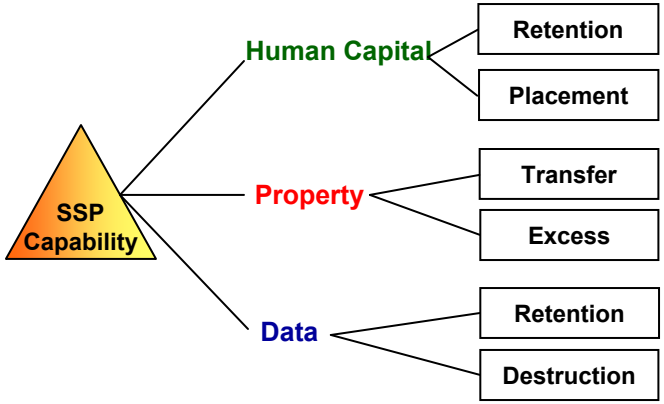


Agency Decision-making for SSP Capability retention

SMRT Document evaluation

TPRCB → TCB → JICB

Agency Divestment Processes

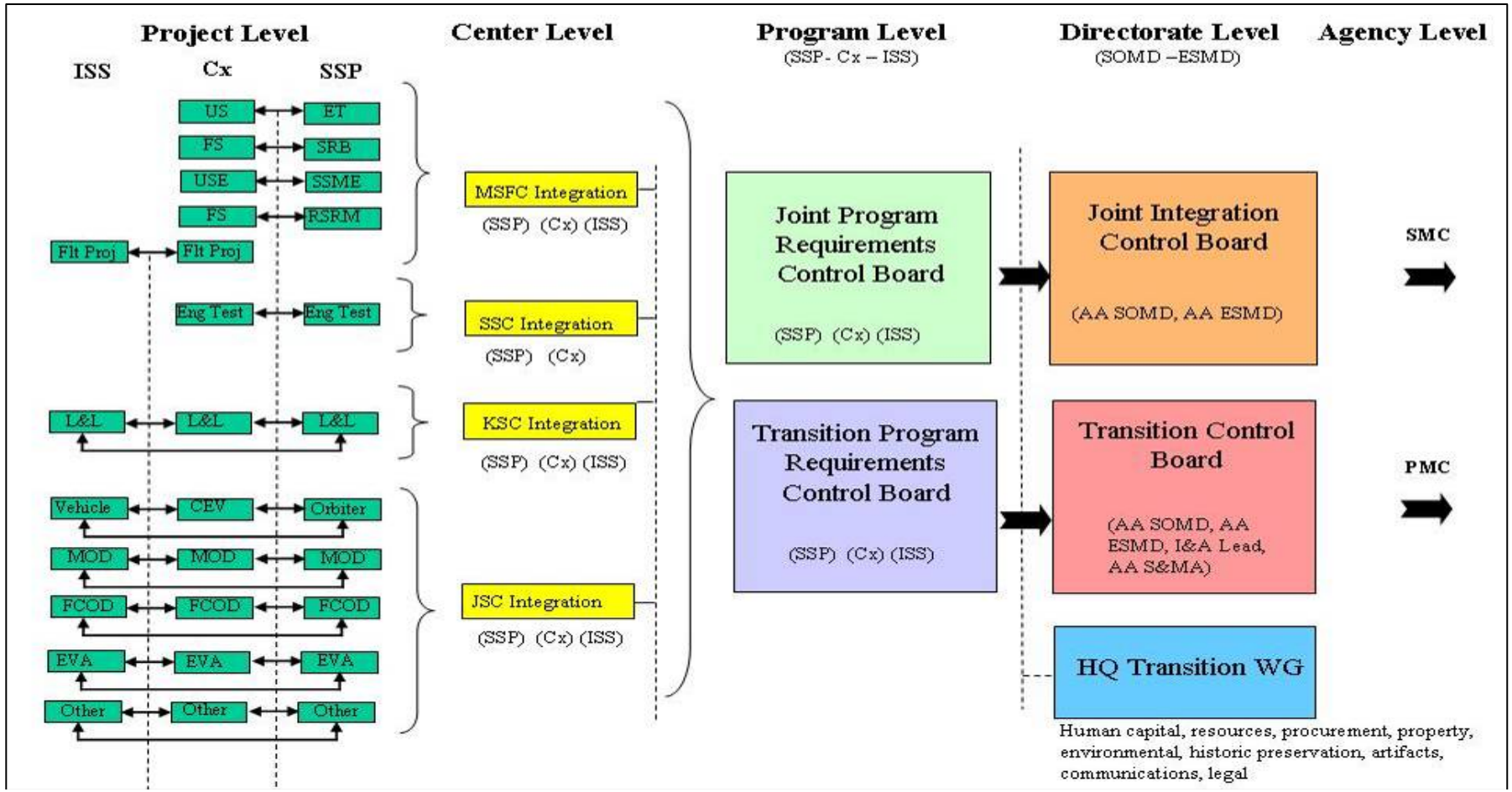


Benchmarking **Planning** **Implementation**

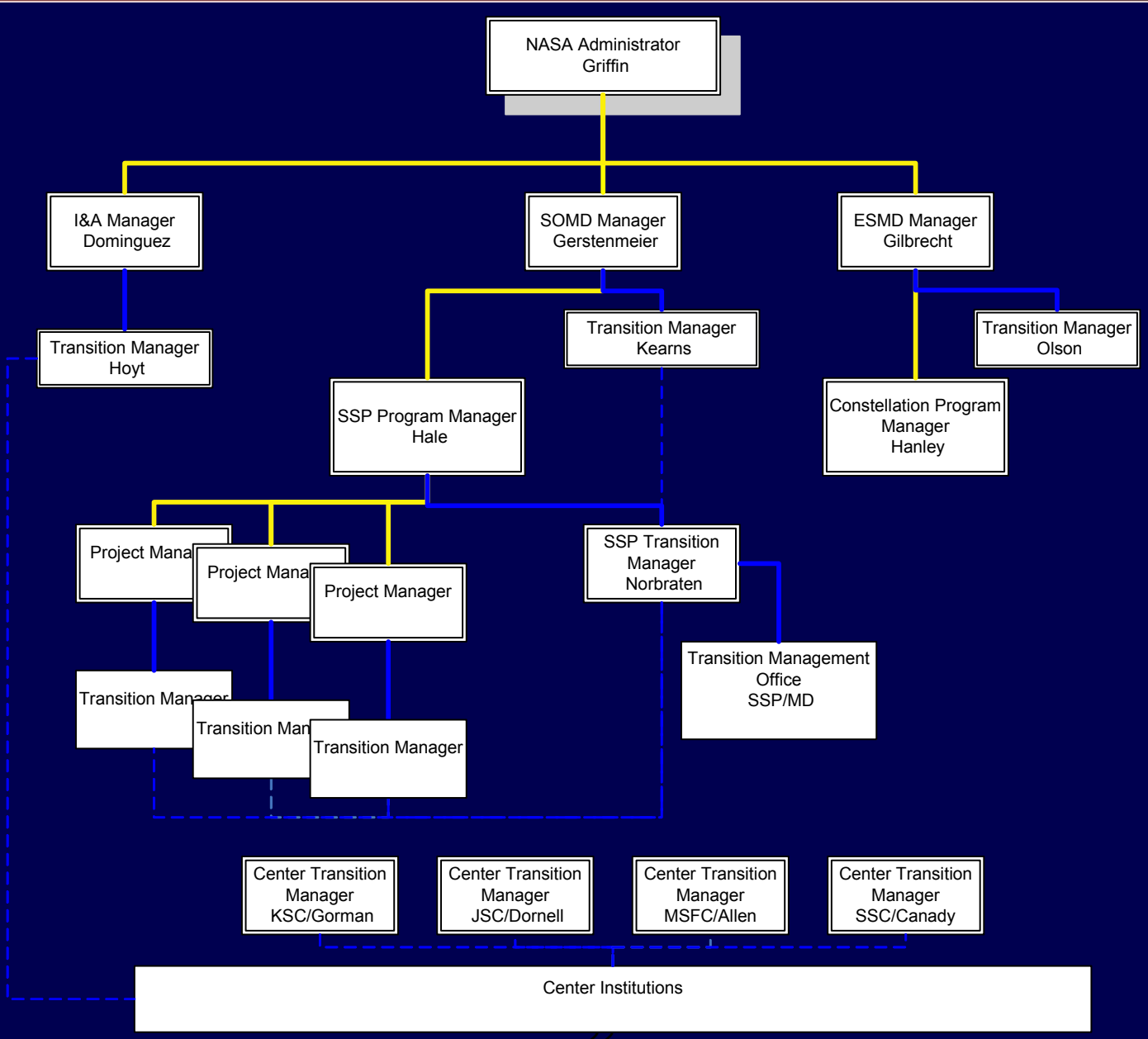
T&R Governance

The Transition Process
Governance Board Structure

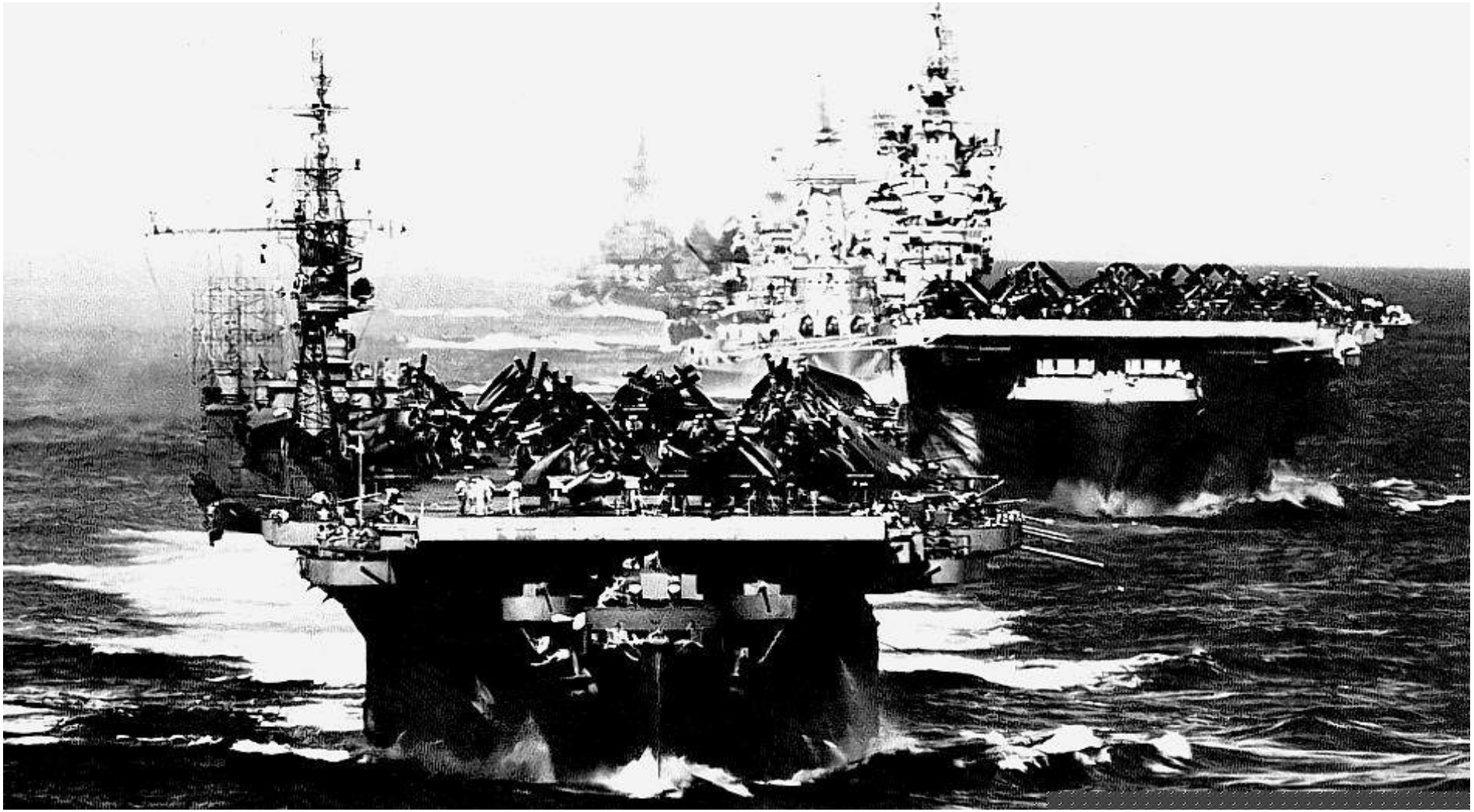
1. Strategic, Longer-term
   - **Joint Integration Control Board (JICB)**
2. Tactical, Near-term
   - **Transition Control Board (TCB)**
3. Program-Level Transition
   - **SSP Transition Program Requirements Control Board (TPRCB)**



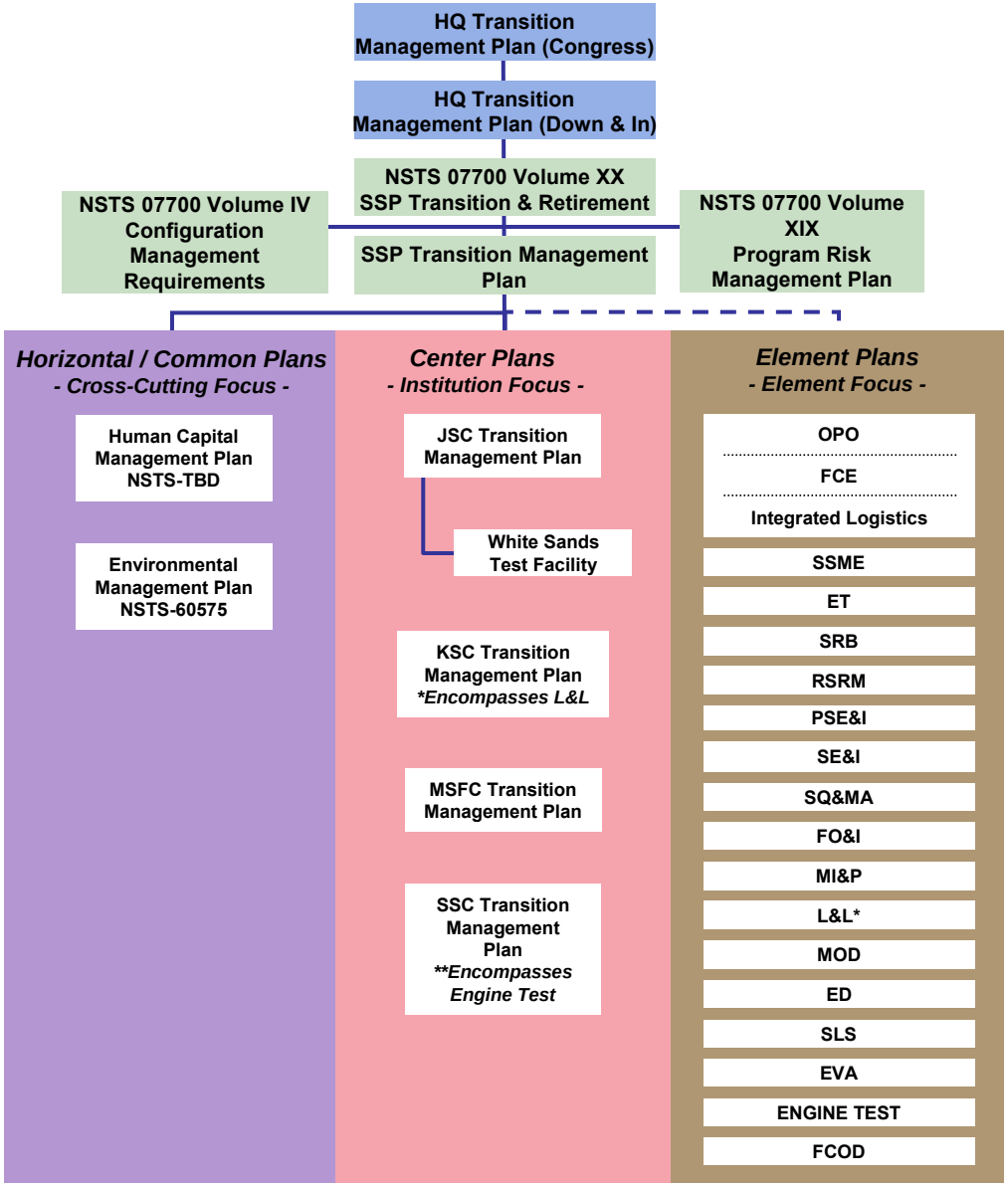
T&R Leadership



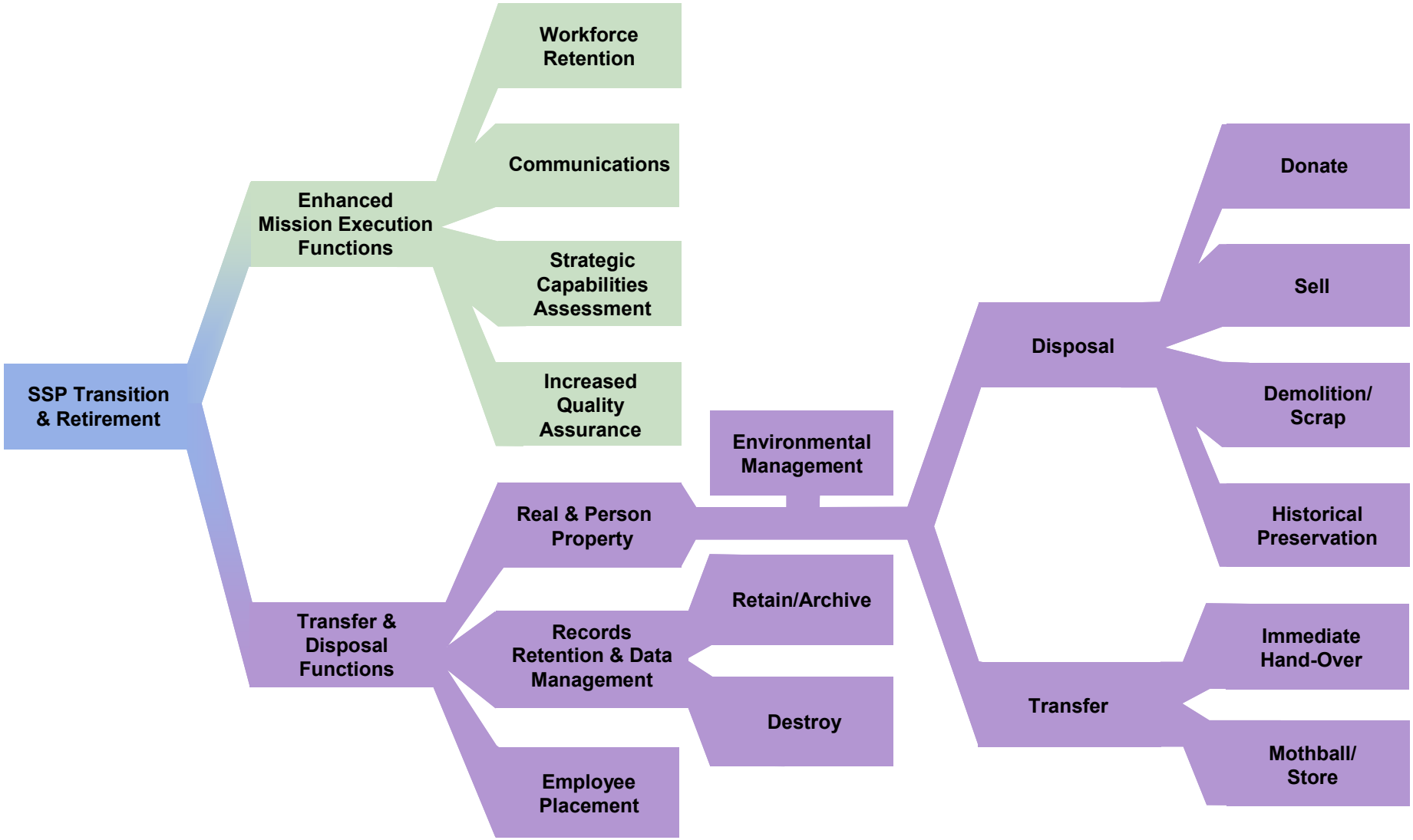
T&R Implementation



SSP T&R Document Tree



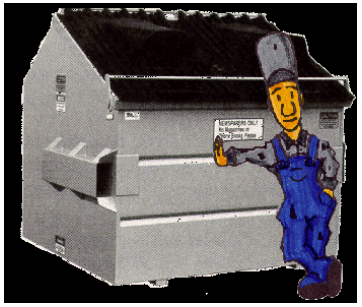
T&R Functions



Crosscutting Functions

Center / Crosscut	MSFC	JSC	KSC	SSC
Risk Management	→			
Property Disposition	→			
Records Management	→			
Environment	→			
Software/IT Management	→			
Resources Planning	→			
Historical Pres.	→			

Property Disposition



NASA Property in the Custody of Contractors (NFS Subpart 1845.71)

Form Approved OMB No. 2700-0017 Expires: 8/31/05

PROPERTY CLASSIFICATION ACCOUNTS	a. BALANCE BEGINNING OF PERIOD (1) Acquisition Cost (In dollars)	(2) Adjustments (In dollars)	b. ADDITIONS (In dollars) (1) Government Furnished	(2) Acquired	c. DELETIONS (In dollars)	d. BALANCE END OF PERIOD (1) Acquisition Cost (In dollars)	(2) Quantity (In units)
4. LAND $100,000 & OVER							
5. BUILDINGS $100,000 & OVER							
6. OTHER STRUCTURES & FACILITIES $100,000 & OVER							
7. LEASEHOLD IMPROVEMENTS $100,000 & OVER							
8. CONSTRUCTION IN PROGRESS (ANY VALUE)							
9. EQUIPMENT UNDER $100,000							
$100,000 & OVER							
10. SPECIAL TEST EQUIPMENT UNDER $100,000							
$100,000 & OVER							
11. SPECIAL TOOLING UNDER $100,000							
$100,000 & OVER							
12. AGRICULTURE (DESCRIBE IN ITEM 16) UNDER $100,000							
$100,000 & OVER							
13. MATERIAL (ANY VALUE)							
14. CONTRACT WORK IN PROCESS (ANY VALUE)							
15. TOTALS							

16. DESCRIPTION OF AGENCY-PECULIAR PROPERTY AND ANY ASSETS DESTINED FOR PERMANENT OR TEMPORARY IN SPACE UNDER FABRICATION:

17. CONTRACTOR REPRESENTATIVE: This report was prepared under NASA requirements from records maintained under FAR 45.5 and NFS 1845.5.

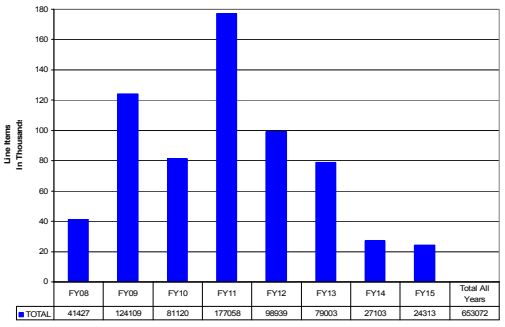
a. NAME (Last, First, Middle Initial) | b. SIGNATURE | c. DATE | d. TELEPHONE | e. PROPERTY SYSTEM: APPROVED YES NO; SYSTEM ANALYSIS (DATE): SATISFACTORY UNSATISFACTORY

Acting Property

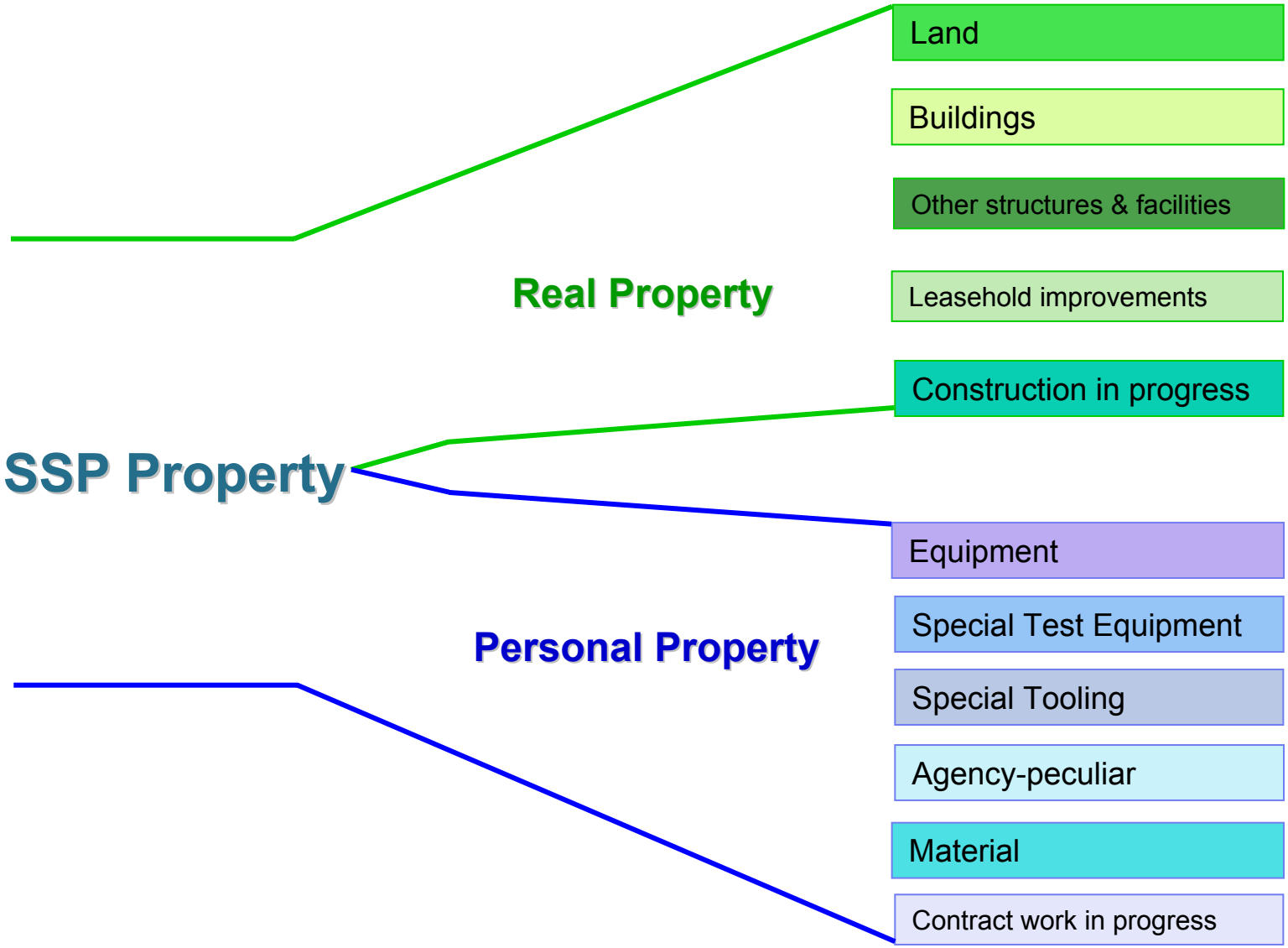
18. GOVERNMENT PROPERTY ADMINISTRATOR:

a. NAME (Last, First, Middle Initial) | b. SIGNATURE | c. DATE | d. TELEPHONE

NASA FORM 1018 SEP 93 PREVIOUS EDITIONS ARE OBSOLETE. PAGE 1 OF 2

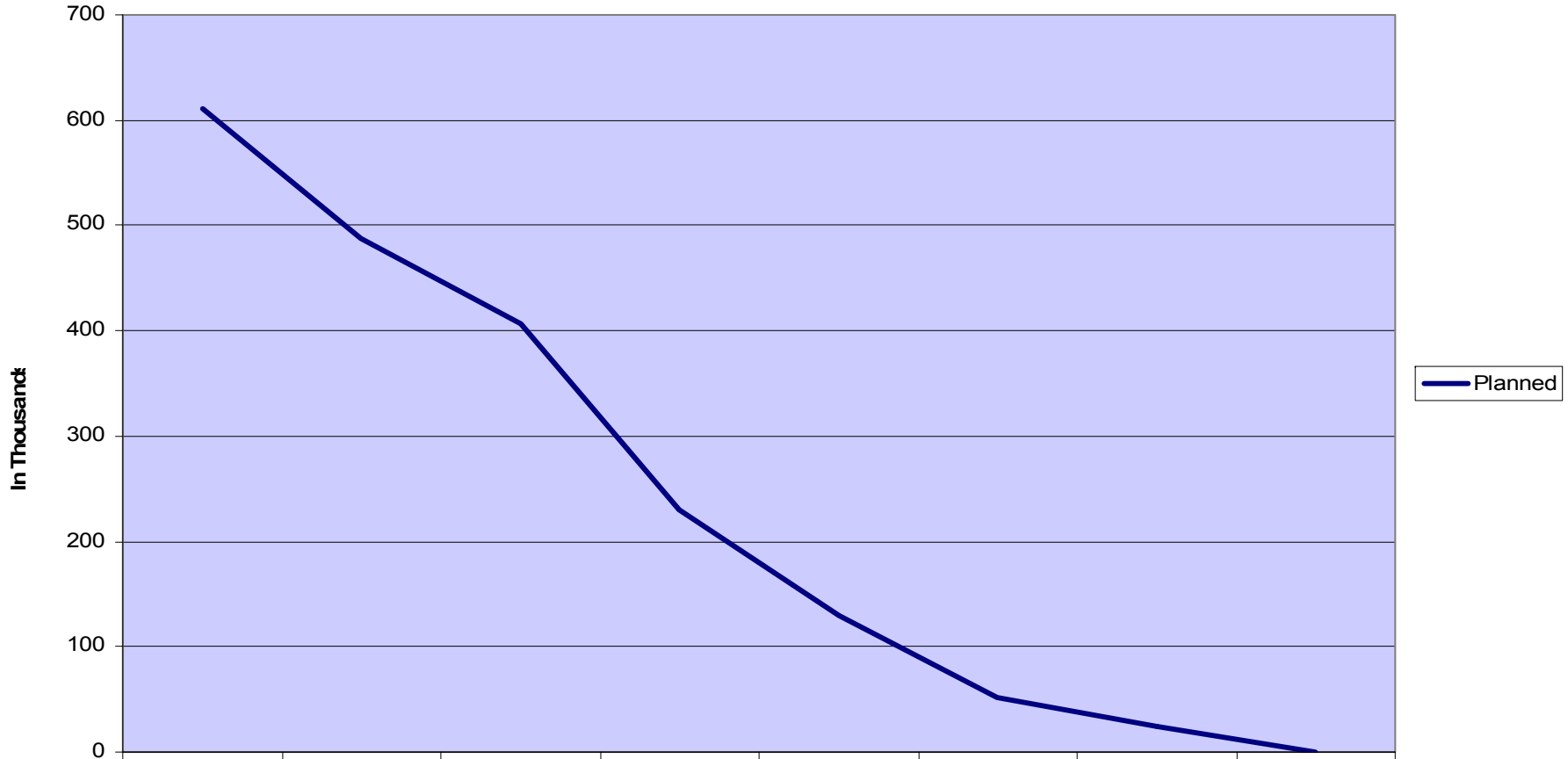


Property Taxonomy



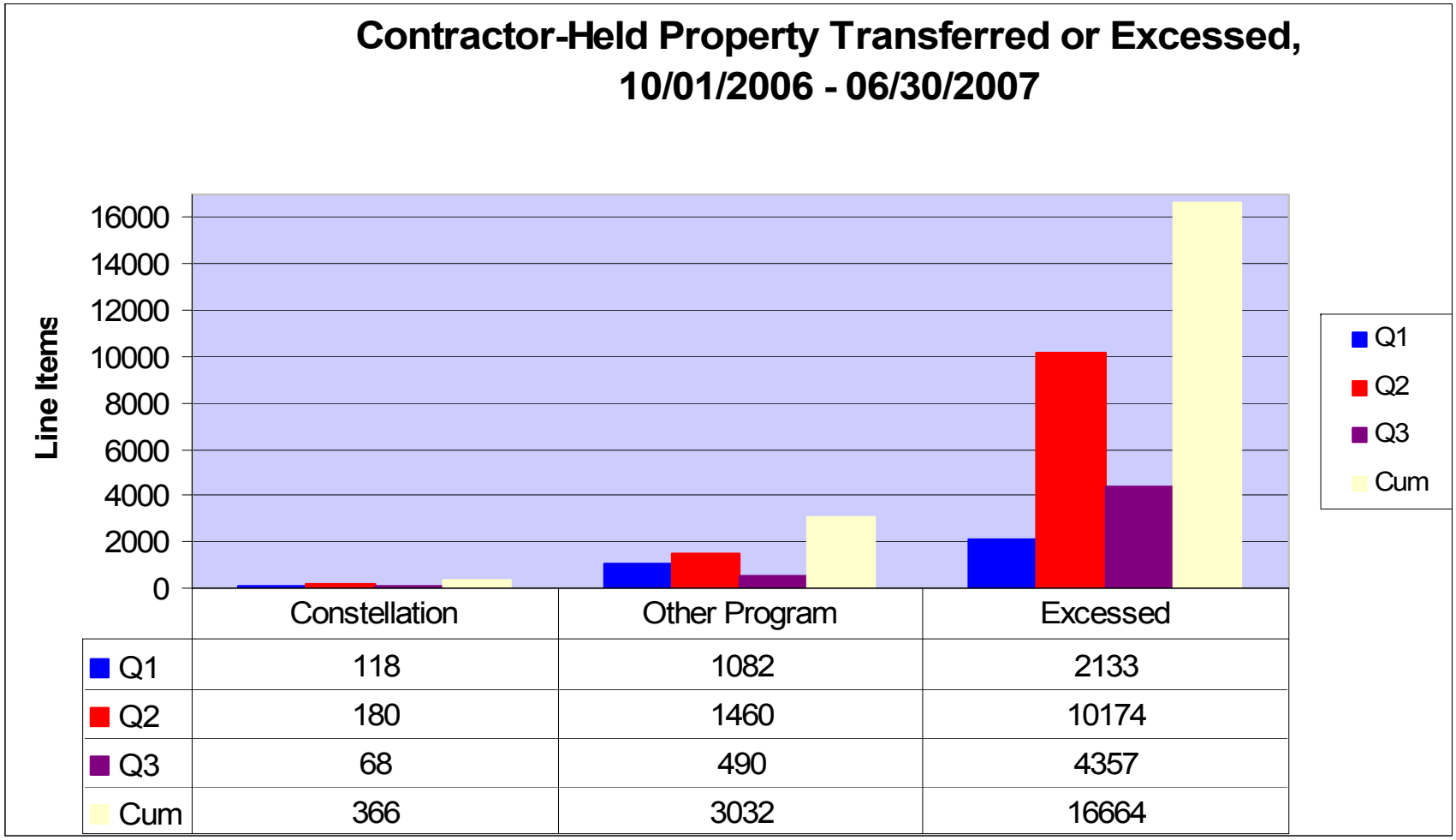
Personal Property Disposal Estimate

Total Excess Planned Burndown FY 08 - FY15



	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Planned	611645	487536	406416	229358	130419	51416	24313	0

Personal Property disposition to date



	Constellation	Other Program	Excessed
Q1	118	1082	2133
Q2	180	1460	10174
Q3	68	490	4357
Cum	366	3032	16664

Facilities Transition

- KSC / Operations & Checkout Building
  - Highbay for all Orion final assembly
  - Highbay cleanout underway

- KSC / Pad 39B
  - Launch Pad and Support Facilities
  - Lightning Protection System

- Michoud Assembly Facility (MAF)
  - Primary structure manufacturing
  - Composite and metal fabrication
  - Plans: Orion, Upper Stage, Earth Departure Stage, Ares V, RPK

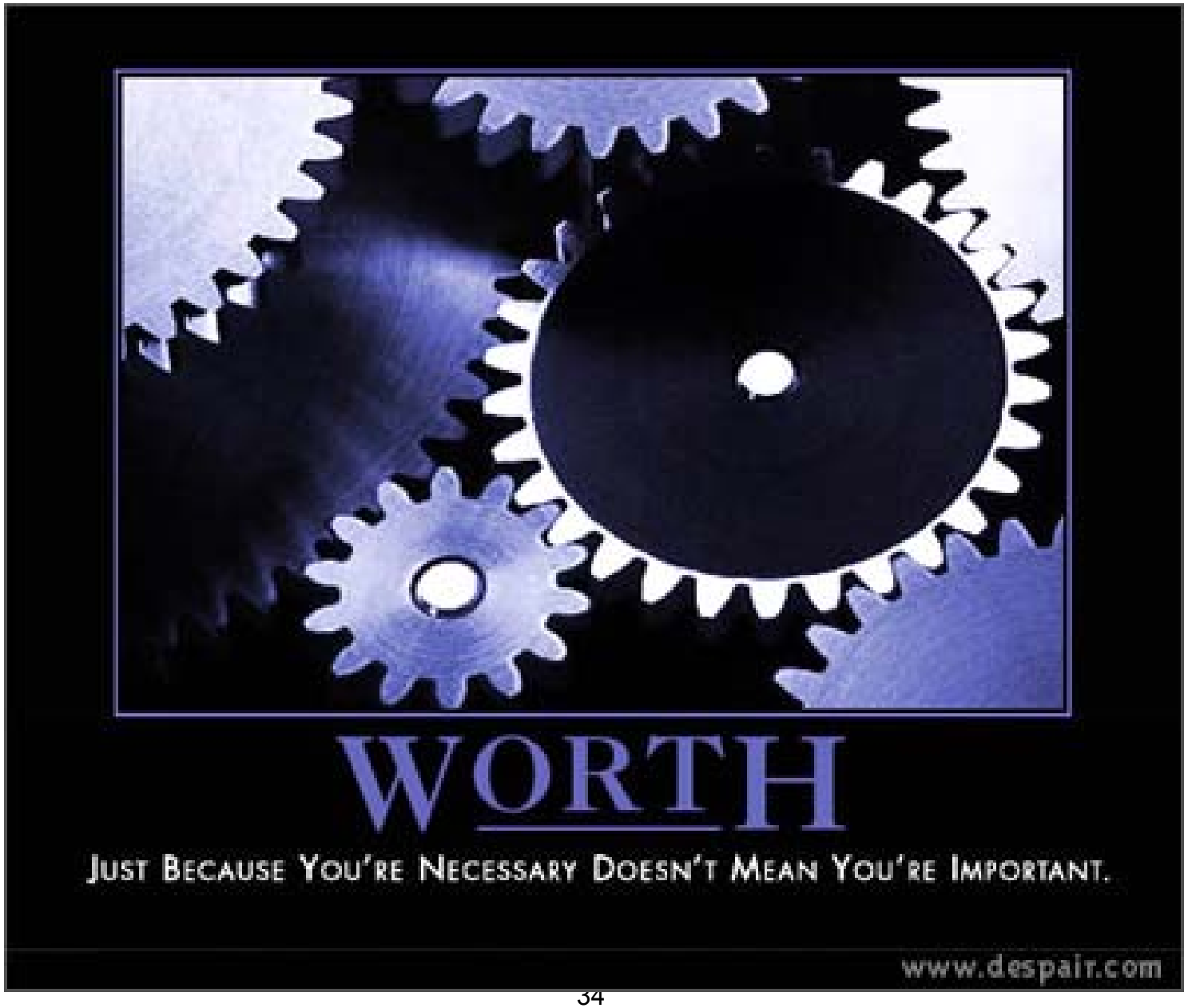
Emphasize Efficient Utilization and Life Cycle Cost Control

Records Management

Records Management Working Group

- SSP T&R utilizes existing processes for records retention
- RMWG formed to provide guidance on records retention and destruction processes
  - Action to provide more specific guidance on records retention
- Prime interface to Center and HQ archivists

Human Capital Management



Transition and the Workforce

- **Unique Challenges**:
  - ***Retaining Skills*** Necessary to Safely Execute Remaining Space Shuttle Missions; ***and***
  - ***Managing Transition*** of Appropriate Shuttle Workforce into Constellation Development; ***and***
  - ***Retaining Skills*** Between FY2010 and FY2014 Necessary to Safely Execute Constellation Flight Operations (Orion/Ares I IOC - 2014)
- **Approach to Ensure Critical Skills Retained:**
  - Provide Challenging, Exciting Follow-on Work in Constellation (and Other Programs)
  - Maintain NASA's Quality Workplace: Providing Collaborative and Creative Environment, Supporting Career Development, Learning Opportunities
- **NASA is Committed to Transitioning as Much of the Shuttle Civil Service Workforce to Other Agency Programs as is Practicable, Using Strategies such as**:
  - Workforce Sharing, Matrixing, Detailing
  - Retraining
  - Identify Opportunities for Placement of Employees with Needed Skills in Other Organizations
- **NASA is Committed to Working with our Space Shuttle Program Contractor Partners on Workforce Issues.**
  - Industry has a Range of Transition, Retention, and Staffing Tools Available to Maintain Critical Skills to Meet their Contractual Obligations Required for Shuttle Mission Execution.
  - Unique to Each Contractor Situation and their Known Role in Future Constellation Work

Human Capital Strategy & Programs

Human Capital Transition Strategy:

- Incorporating Scenario Planning into the Proposed Strategic Business and Workforce Planning Process at the Agency

Workforce Assessment: Civil Servant & Contractor

- "10 Healthy Centers"
- Program Requirements Will Drive our Workforce and Skill Needs

Processes: Examples

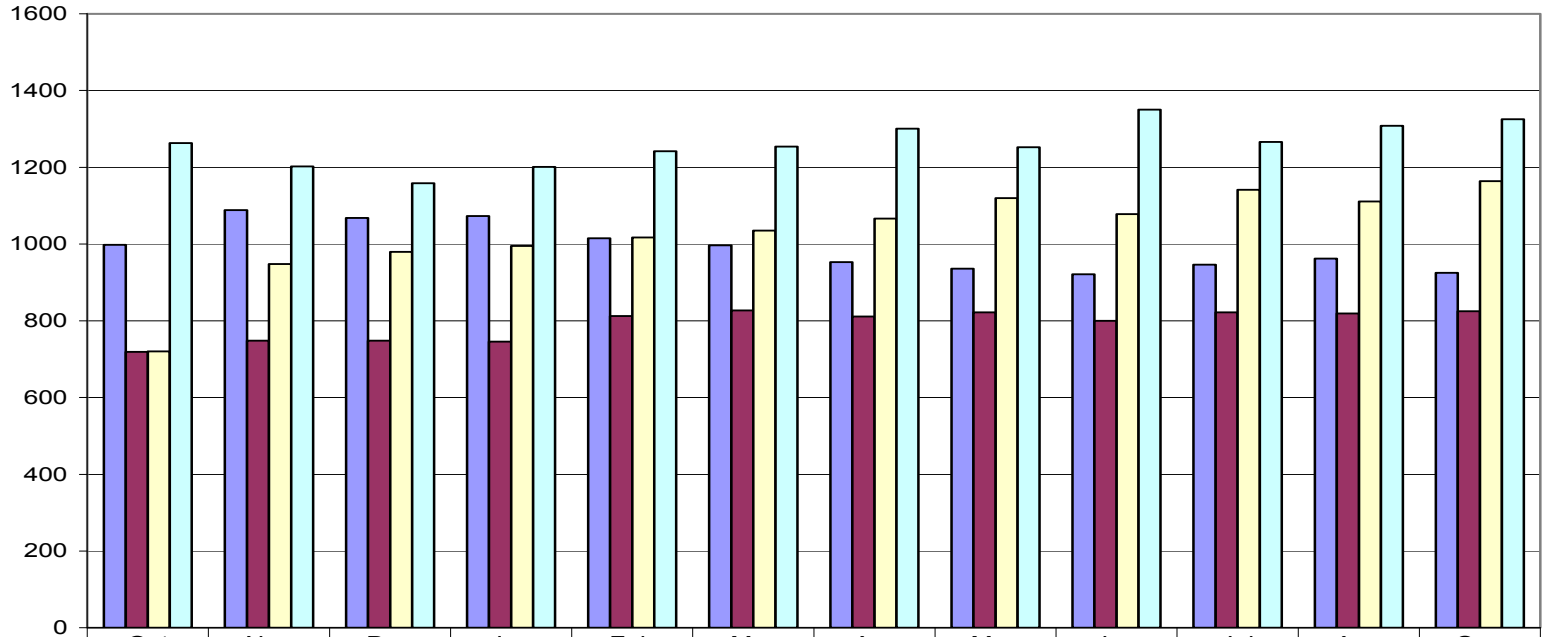
- Competency Management System: **NASA system, Local Control**
- Critical Skills Retention: **Identification, Phasing, Approaches, Cost**
- Training: **Cross-training, Re-training, Initial-Training, Frequency**
- Tracking: **Metrics/Surveys, Monitoring, Feedback Loop**
- Tools: **Plan to Use Multiple Methods and Tools**
  - HR models: Numbers-based Approach (Funded & Unfunded FTEs/WYEs)
  - Process & Systems Modeling for Workforce Requirements (Ex. DoD, MicroSaint)

Workforce Synergy:

- Personnel Splitting their Time & Workload Focus Between $\geq$ 2 Programs: Shuttle, ISS, and Constellation (Example: 50% SSP/50% CxP), with Shuttle Having Priority due to Flight Safety Drivers

Human Capital Transition (sample metric)

FY07 – KSC, JSC, MSFC, and SSC



	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Shuttle Count	998	1088	1068	1073	1015	997	953	936	921	946	962	925
Station Count	719	748	748	746	812	827	811	822	800	822	819	825
Constellation Count	720	948	980	995	1017	1035	1066	1120	1078	1141	1111	1164
Total Splits	1263	1202	1158	1201	1242	1254	1301	1252	1350	1266	1308	1325

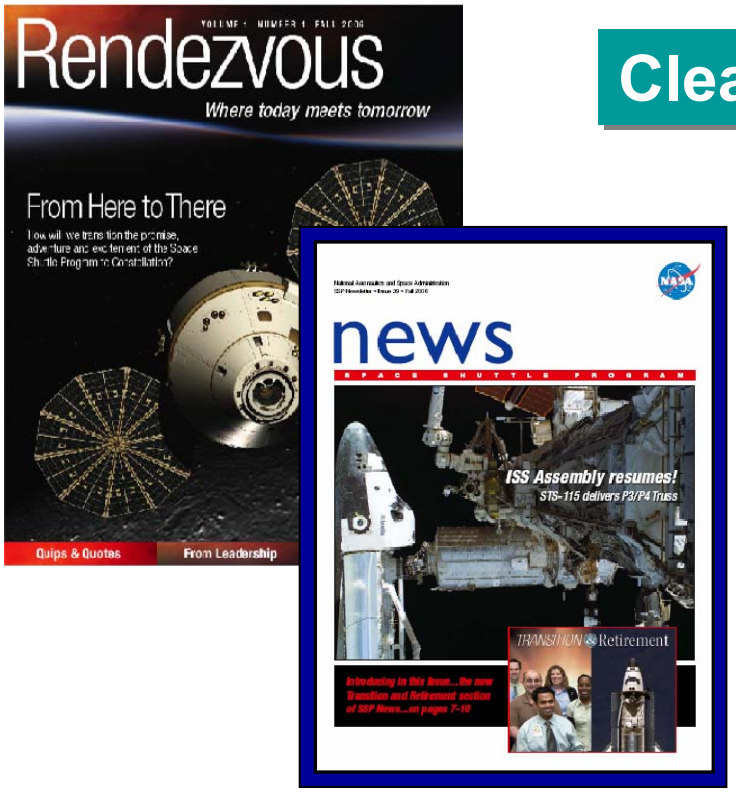
Count of civil service employees charging 100% to Shuttle, Station, and Constellation or split between 2 or more Programs. Includes KSC, JSC, MSFC, and SSC.

S. Leibert

Transition Communications

Top-Down, Bottoms-Up, In and Out Transition Communication

- Transparency, Accuracy, Clarity, Brevity: the Facts in a Timely Manner
- All Media Types & Venues



Clear & Consistent Communication

T&R Monthly Activity Report

- Distributed broadly
- Provides a monthly snapshot of what everyone is working on
- Requires short-term goal setting
- Quick way to track progress

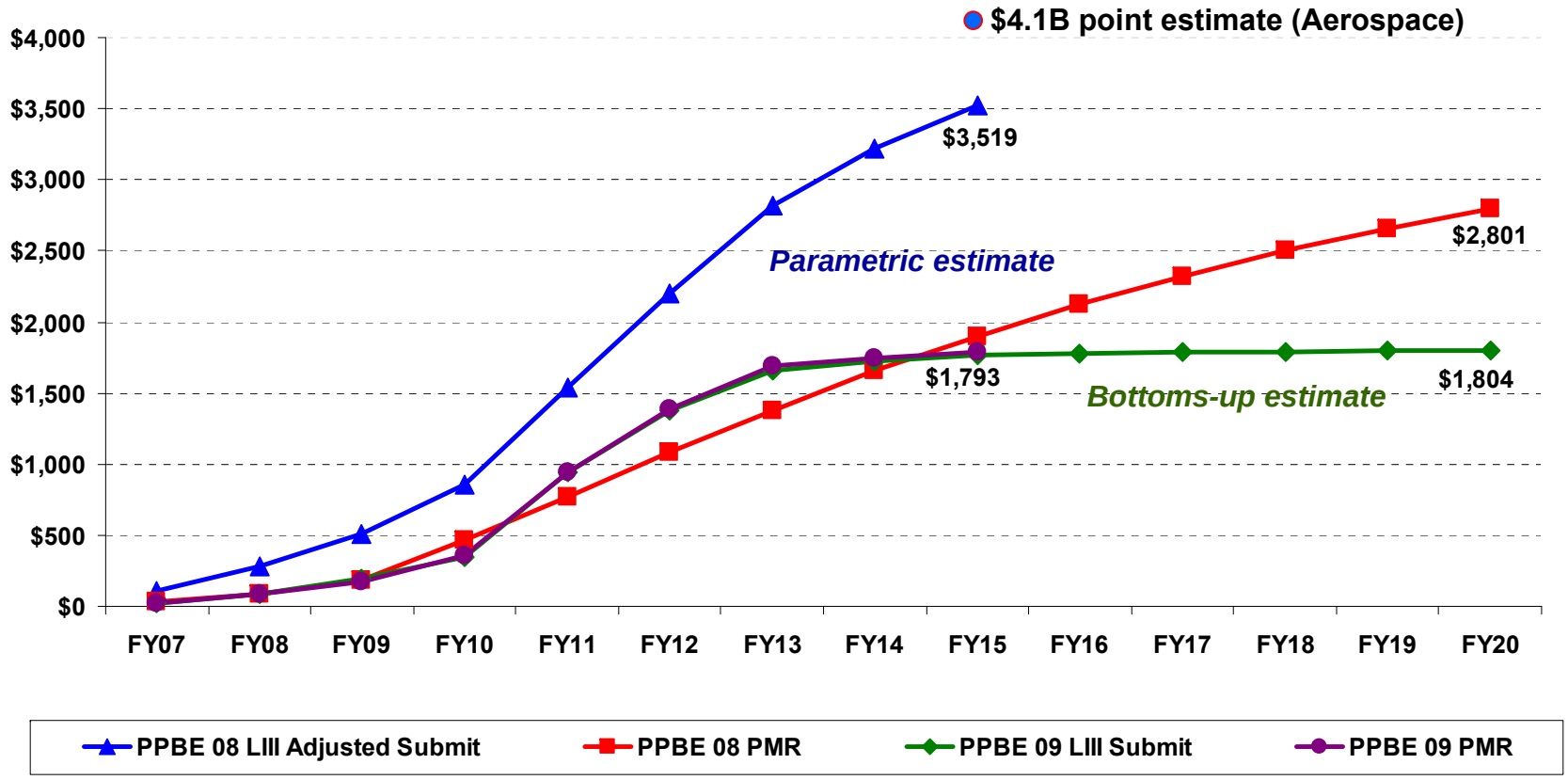
T&R Issue Report

- Complied for managers review at TQPMR
- Helps identify temporary vs. serious roadblocks
- Stimulates discussion about shared (or not) experiences across centers

T&R Program Control

T&R Cost Evolution

PPBE 09 – SSP Transition & Retirement
PMR Summary ($M)



As in all projects, requirements development enables improved cost estimates.

Transition Strategic Schedule 9-month (sample)

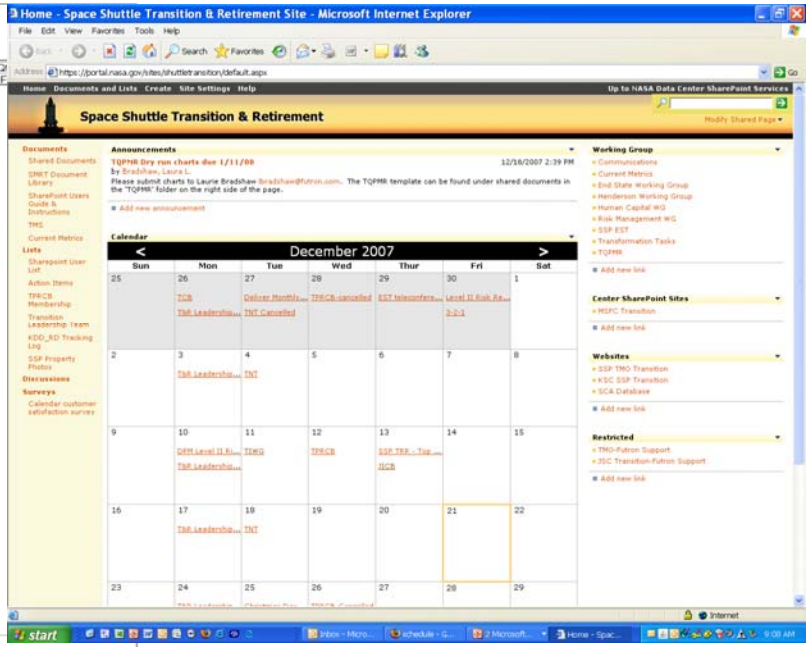
By Planned Date

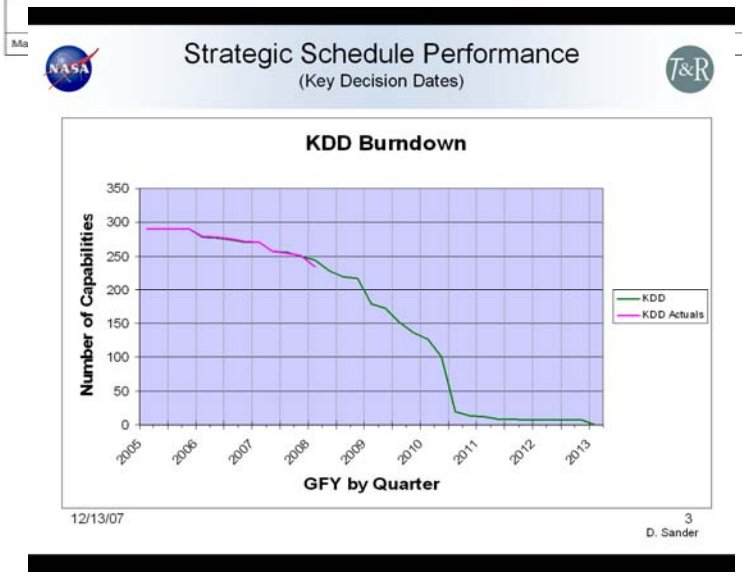
TSS - TRANSITION STRATEGIC SCHEDULE
9 Mo Lookahead (7/07 - 3/31/08)

ID	CAP No.	Name	Notes	Var
1096	SRB-010	LND	SRB-010 _ Refurbishment of Servoactuator - LND	32d
1097	SRB-010	RD	SRB-010 _ Refurbishment of Servoactuator - RD	31d
1107	SRB-013	KDD	SRB-013 _ Repair of Gas Generator Valve Module (GGVM) - KDD	2d
1225	SSME-026	RD	SSME-026 _ SSFL NASA Area I & II _ End-of-Program Mission Execution Capability - RD	32d
1020	RSRM-030	LND	RSRM-030 _ Manufacture power cables, joint heaters (Glenair) - LND	61d
1111	SRB-014	KDD	SRB-014 _ Repair of Command Receiver Decoder (CRD) and Altitude Switch Assembly (ASA) - KDD	0d
26	ET-007	KDD	ET-007 _ Machine & Weld Dome Cap Fittings with Manipulator - KDD	-371d
30	ET-008	KDD	ET-008 _ Perform Machining of Dome Cap Fittings - KDD	371d
34	ET-009	KDD	ET-009 _ Manufacture AL2195 27" Dia. Dome Bodies - KDD	-371d
38	ET-010	KDD	ET-010 _ NDE AL2195 27" Dia. Domes - KDD	-371d
492	L&L-034	RD	L&L-034 _ MLP Refurbishment Area (West Parksite) - RD	0d
948	RSRM-012	LND	RSRM-012 _ Machine & repair large metal components (STADCO) - LND	0d
949	RSRM-012	RD	RSRM-012 _ Machine & repair large metal components (STADCO) - RD	0d
1228	SSME-027	LND	SSME-027 _ SSFL Boeing Area I, III, & IV _ End-of-Program Mission Execution Capability - LND	0d
1229	SSME-027	RD	SSME-027 _ SSFL Boeing Area I, III, & IV _ End-of-Program Mission Execution Capability - RD	0d

Qtr 4: Jul, Aug, Sep | Qtr 1: Oct, Nov, Dec, Jan

Run Date: 11/5/07





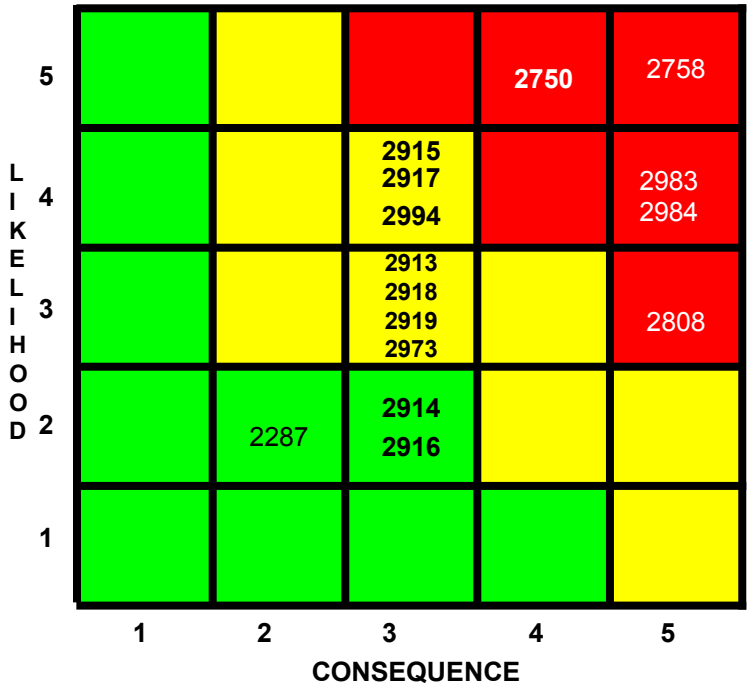
- Level-2 SSP Transition Management Office maintains Transition Master Schedule made up of SCA strategic capability milestones
- Level-3 project/program elements maintain individual tactical schedules for implementation

D. Sander

Top SSP Risks

Risk Number - Title	Owning Team	June 2007	Aug 2007	October 2007	December 2007
2983 - Loss of Critical Contractor Personnel	**SP_Transition**			NEW TPR 4 x 5	3 x 5
2984 - Loss of Critical Civil Service Personnel	**SP_Transition**			NEW TPR 4 x 5	3 x 3
2689 - TPS Damage Due to Ascent Debris: ET Foam Release	**SEI**	4 x 5	4 x 5	4 x 5	3 x 5
2691 - TPS Damage Due to Ascent Debris: Ice Release	**SEI**	4 x 5	4 x 5	4 x 5	3 x 5
2692 - TPS Damage Due to Ascent Debris (non foam/ice): Gap Filler, Putty Repair, Ceramic Inserts, SRB BTA	**SEI**	4 x 5	4 x 5	3 x 5	3 x 5
2962 - Infrequent/Catastrophic EMU-018: Externally Induced Hazards - Sharp Edge Exposure	**EVA**		NEW TPR 4 x 5	4 x 5	4 x 5
2474 - Orbiter Composite Overwrap Pressure Vessel (COPV) Burst	**VEHSYS**	3 x 5	3 x 5	3 x 5	Accepted Risk 3 x 5
2827 - Current External Tank Ice Frost Ramp (IFR) Design	**ET**	3 x 5	3 x 5	3 x 5	3 x 5
2829 - Failure to Avoid Lightning with Crew Onboard SSV (ILIT-01)	**SEI**		NEW TPR 3 x 5	3 x 5	2 x 5
2846 - Vehicle Damage Due to Liftoff Debris	**P_SEI**	3 x 5	3 x 5	3 x 5	3 x 5
2793 - Failure to Avoid Lightning - Ground Processing (ILIT-01)	**SEI**	4 x 4	4 x 4	3 x 4	3 x 4
2815 - ET Production to Meet the SSP Manifest	**ET**	4 x 4	4 x 4	4 x 4	4 x 4
2971 - Threats to SSP Reserve in FY08				NEW TPR 3 x 3	3 x 5
2505 - Loss of Critical Personnel	**SP_Transition**	4 x 5	4 x 5	Closed	
2851 - Threats to SSP Reserve in FY07	**BusMgmt**	5 x 5	Closed		
2703 - Composite Overwrap Pressure Vessel (COPV) Stress Rupture (Infrequent/Catastrophic LL-0173 Cause 1,2,3,4)	**Shuttle_Proc**	3 x 5	3 x 5	De-Escalated to TOR 3 x 5	
2877 - Vehicle Damage Due to Ground Source Debris During Launch (Infrequent/Catastrophic LL-0077 Cause 7, 8)	**Shuttle_Proc**	3 x 5	3 x 5	3 x 5	Closed. Merged with 2846 3x5

SSP T&R Risks
SSP Transition Quarterly Risk Report



Saf - Safety	MS- Mission Success	Supp - Supportability	Sch- Schedule	C – Cost
▲ – Top Program Risk (TPR)				
△ – Top Director Risk (TDR)				
■ – Top Organization Risk (TOR)				
□ – Top Sub Organizational Risk (TSR)				
Low	Medium	High		
Closed Risks		New Risks		

Num	FY07-Q3	FY07-Q4	Team	Title
2983 ▲	4x5	4x5	SP_Transition	Loss of Critical Contractor Personnel (Supp)
2984 ▲	4x5	4x5	SP_Transition	Loss of Critical Civil Service Personnel (Supp)
2808 △	3x5	3x5	SP_Transition	SSP Cost Threat: Transition and Retirement (C)
2913 ■	3x3	3x3	SP_Transition	Environmental Planning for SSP Transition and Retirement (Saf, Sch, C)
2914 ■	2x3	2x3	SP_Transition	National Environmental Policy Act Requirement for SSP T&R (Saf, Sch, C)
2915 ■	4x3	4x3	SP_Transition	External Reviews and Approvals of Programmatic Environmental Assessment (EA) (Saf, Sch, C)
2916 ■	2x3	2x3	SP_Transition	Potential for Environmental Impact Statement Requirement (Sch, C)
2917 ■	4x3	4x3	SP_Transition	Coordination with Constellation NEPA Process (Saf, Sch, C)
2918 ■	3x3	3x3	SP_Transition	Potential Loss of Shuttle Environmental Assurance Initiative Capability (Supp, Sch, C)
2919 ■	3x3	3x3	SP_Transition	Potential for Impact to SSP HCFC 141b Essential Use Exemption (Saf, Supp, Sch, C)
2994 ■		4x3	SP	Lack of available support to complete T&R activities (Supp, Sch)
2287 ■	2x2	2x2	Shuttle_Proc	Civil Service Workforce Retention (Sch)
2750 ■	5x4	5x4	Shuttle_Proc	Contractor Workforce Retention (Sch)
2758 ■	5x5	5x5	Shuttle_Proc	Transition / Retirement Unfunded (C)
2973 △		3x3	Shuttle_Proc	Flight Rate Supportability-During Ares 1-X Processing (10month period) (Supp, Sch)

Source: SIRMA, Oct. 23, 2007

G. Norbraten

Transition Metrics Overview & Accountability

How Do We Measure Transition Success? Metrics, Surveys & Feedback

Directorate Management (Headquarters)

Level 0, 1

Big "T"

Transition Metrics Accountability

Exploration Systems and Space Operations Transition Directors + Institutions & Administration

- ✓ Cost Avoidance
- ✓ Transition Schedule Variance
- ✓ Workforce Transition (CS & Contractor)
- ✓ Transition Risk
- ✓ Personal Prop. Divestment
- ✓ Communication Effectiveness
- ✓ Transition Implementation
- ✓ Third-Party Assessments
- ✓ TCB/JICB Actions

Clear Accountability

Clear Tasking

Program Management (Centers)

Level 2

Little "t"

Various Program Offices NASA Field Centers

- ✓ Annual Personal Property Divestment
- ✓ Cost
- ✓ Schedule
- ✓ Risk
- ✓ Technical
- ✓ Synergy
- ✓ Communications

Project Management (Centers)

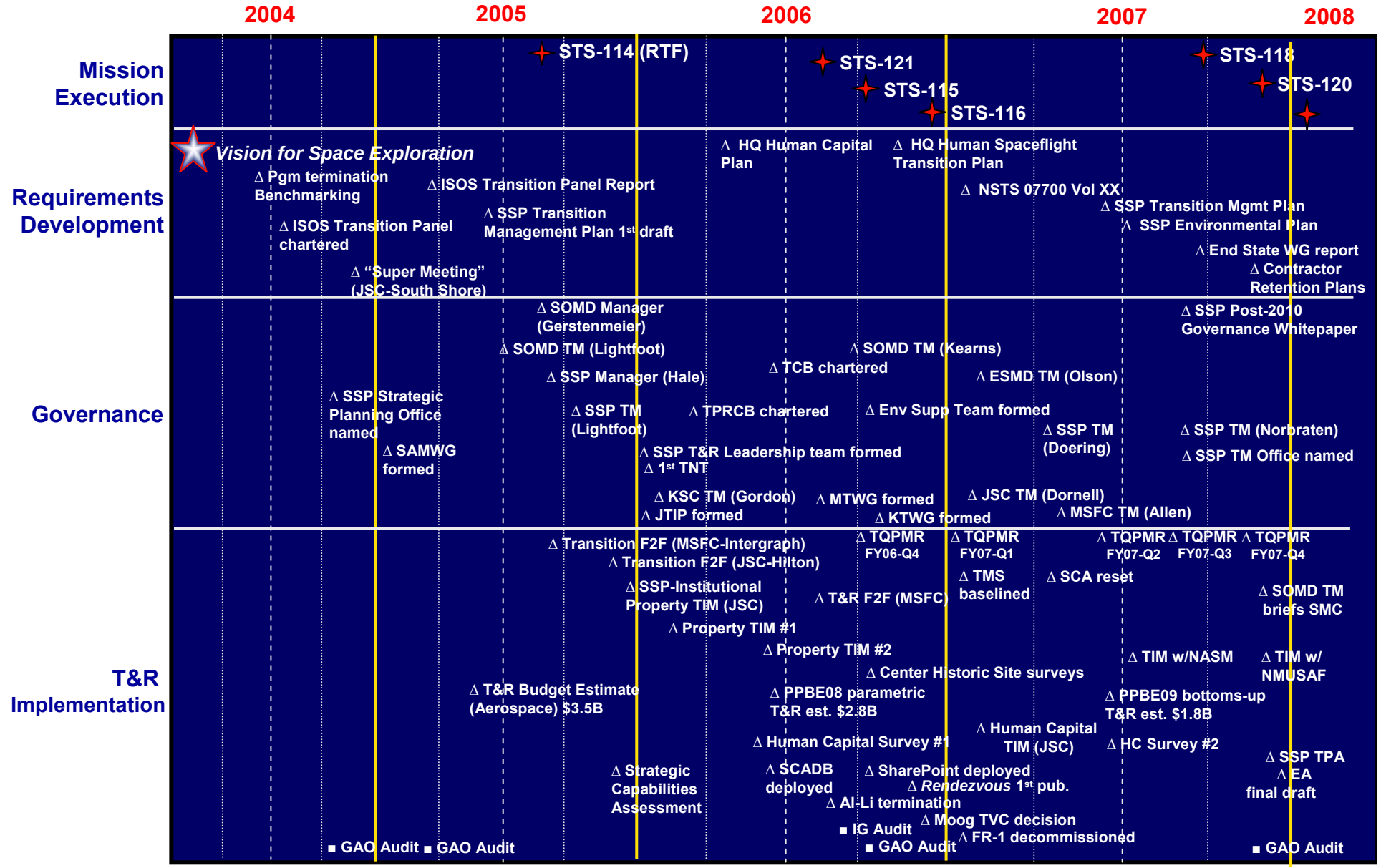
Level 3

Various Project Offices NASA Field Centers

- ✓ Project Implementation

T&R Progress

T&R Chronology



Recent Accomplishments

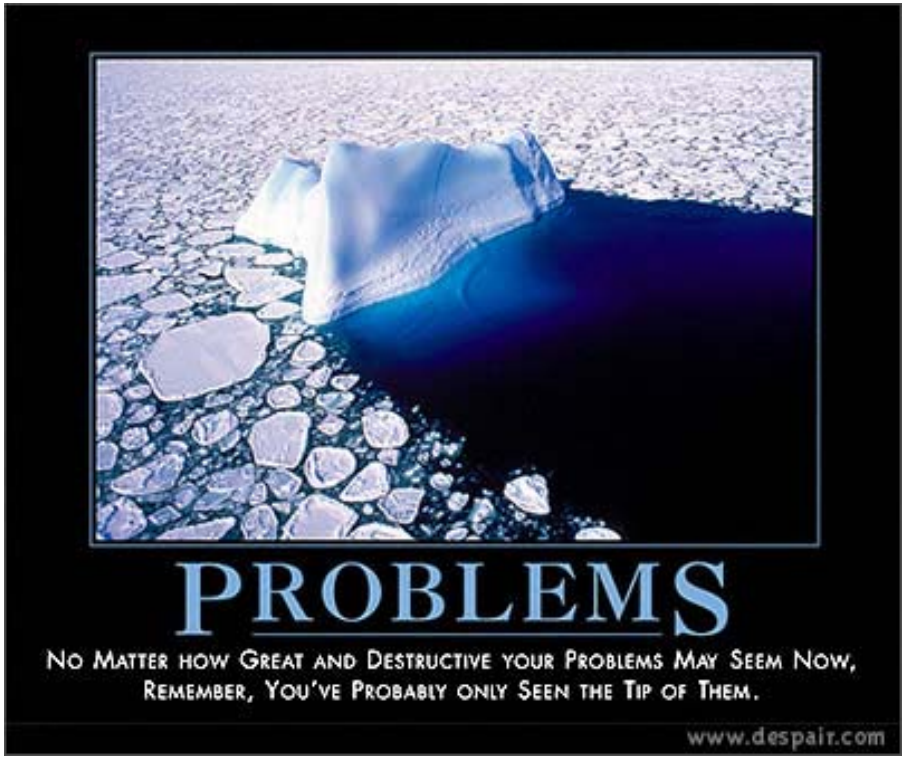
Shuttle Capabilities Retiring or Transitioning

- L&L – Decommissioning of FR-1, release of west MLP parksite
- SSME - Decision on termination of power head production
- SSME - Decision on termination of high pressure turbo pump production
- Orbiter - Termination decisions on 6 suppliers no longer needed, demolition of Palmdale temporary buildings, disposal of excess property in MAF storage

Transition Integration Accomplishments

- Oversight - Conducted Transition QPMR on February 6-7
- Products - Completed SSP Transition Management Plan, Environmental Plan, Environmental Assessment, preliminary End-State requirements
- Communication - Permanent transition feature added to SSP News
- Communication - “Rendezvous” Online Magazine Debut
- Human Capital – Roll-out of prime contractor retention plans
- Historic - Real Property for Historic Landmark site surveys

T&R Issues



- Dynamic mission requirements
- Constrained resources
- Overlaps & Gaps with Constellation
- Decision-making process
- Inventory assessments
- Artifact definition & identification
- Post-2010 governance TBD
- Metrics

Upcoming Activities

FY08 T&R implementation:

- PPBE10
- Pre-screening of SSP personal property
- Disposition of excess Orbiter hardware at MAF and Palmdale
- Completion of production activities
  - SSME MCC, ducts
  - SRB APU GG/GGVM
  - Orbiter ECLSS flex hoses, windows, tires
- Significant transfers to CxP:
  - Pad B
  - MLP 1
  - MSP West Park Site
- Vendor closeouts

T&R Summary

- **SSP Transition & Retirement is in uncharted territory**
  - Products and Processes are maturing
  - T&R plans, processes and management boards are operational
- **Managing Risk is key**
  - Safety and Mission Success are our Fundamental Decision Drivers
  - Mission Execution shapes T&R requirements and constraints
  - Close coordination between Mission Execution and T&R essential
- **FY10 Planning, Programming, Budgeting, Execution (PPBE) will refine plans post-FY10**
- **Skilled Workforce Retention is a top priority**
  - Shuttle Fly-Out, transition to Constellation Development
    - Gap to Constellation Flight Operations - Major Risk
- **Stakeholder Communications underway**
  - Congress, OMB, GAO, Strategic Management Council, Civil Servants & Contractors

Project Management Best Practices apply to Program Termination